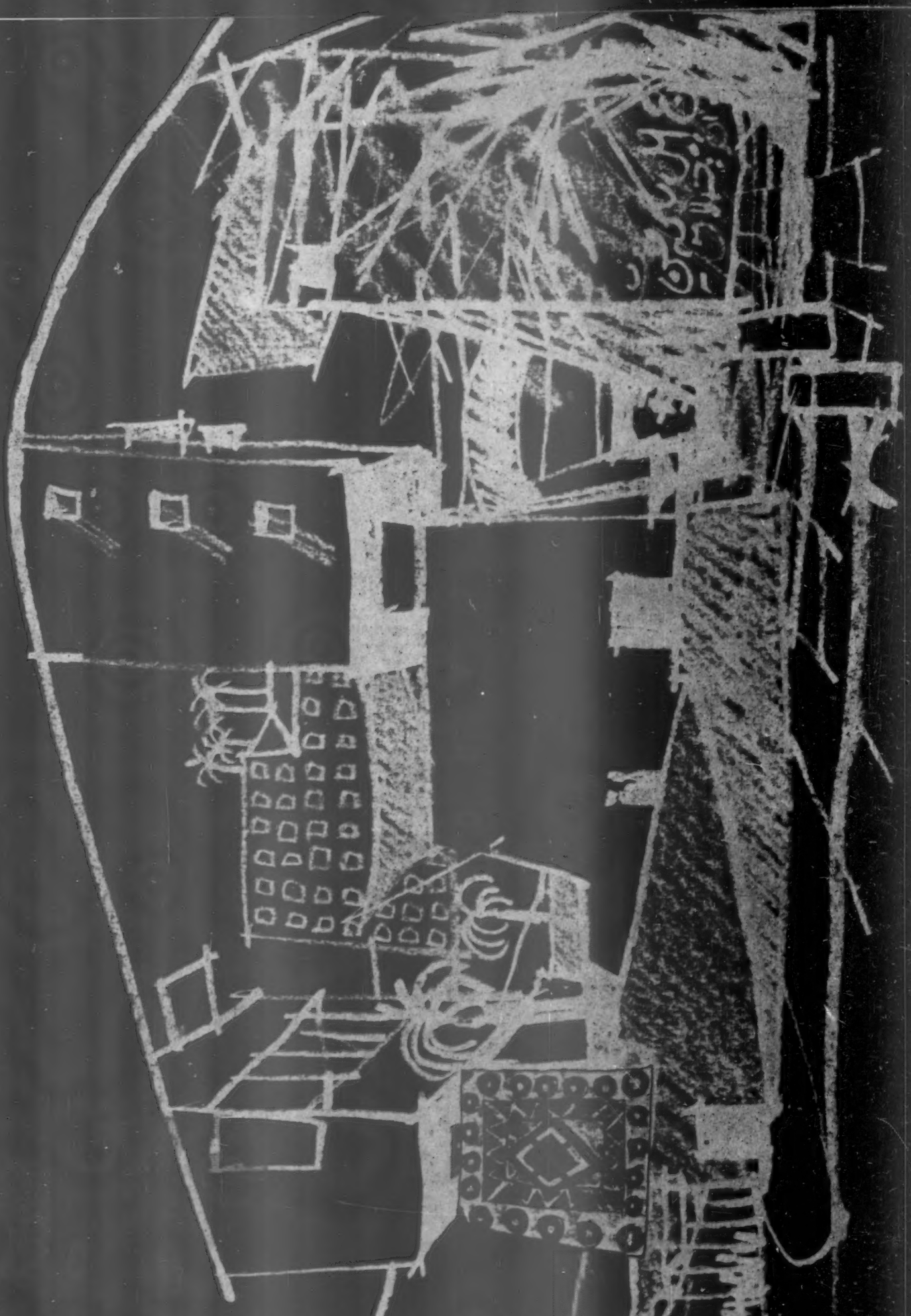

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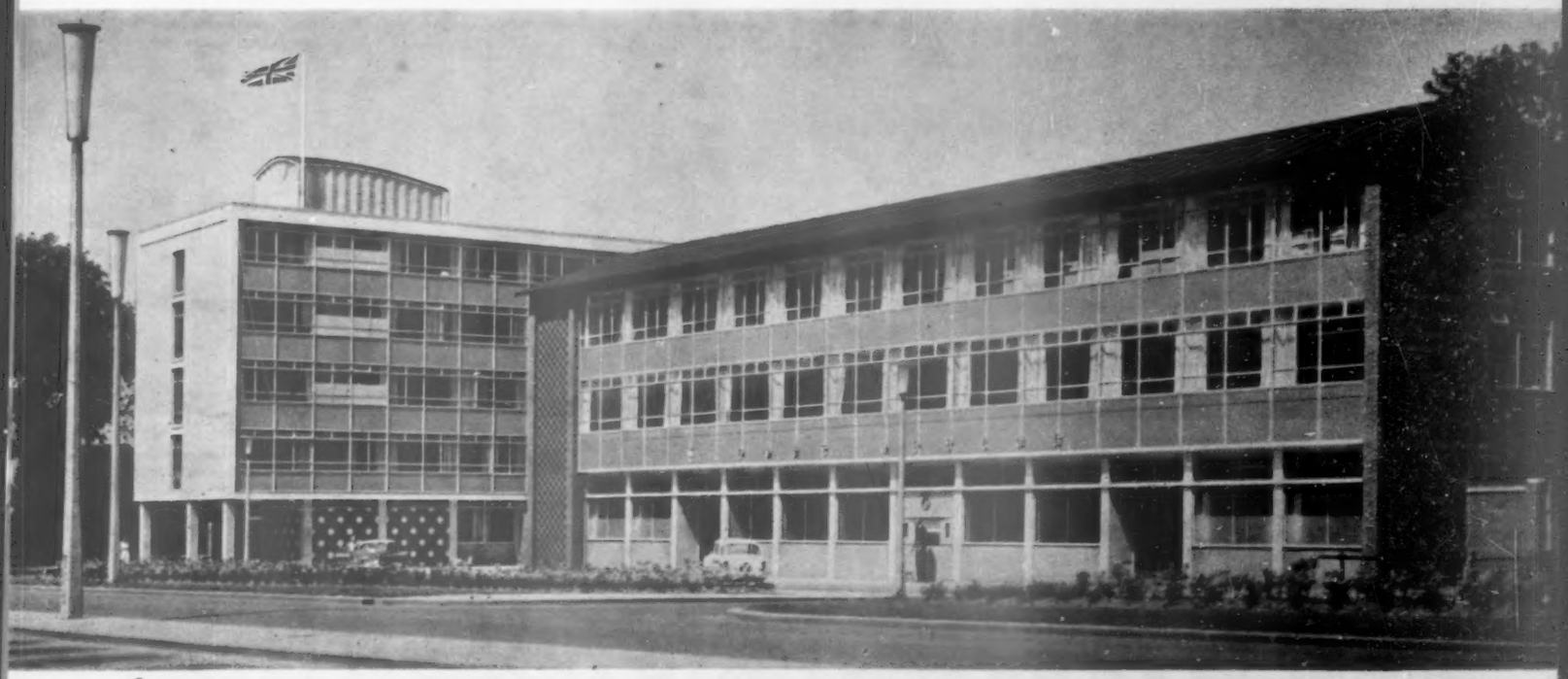

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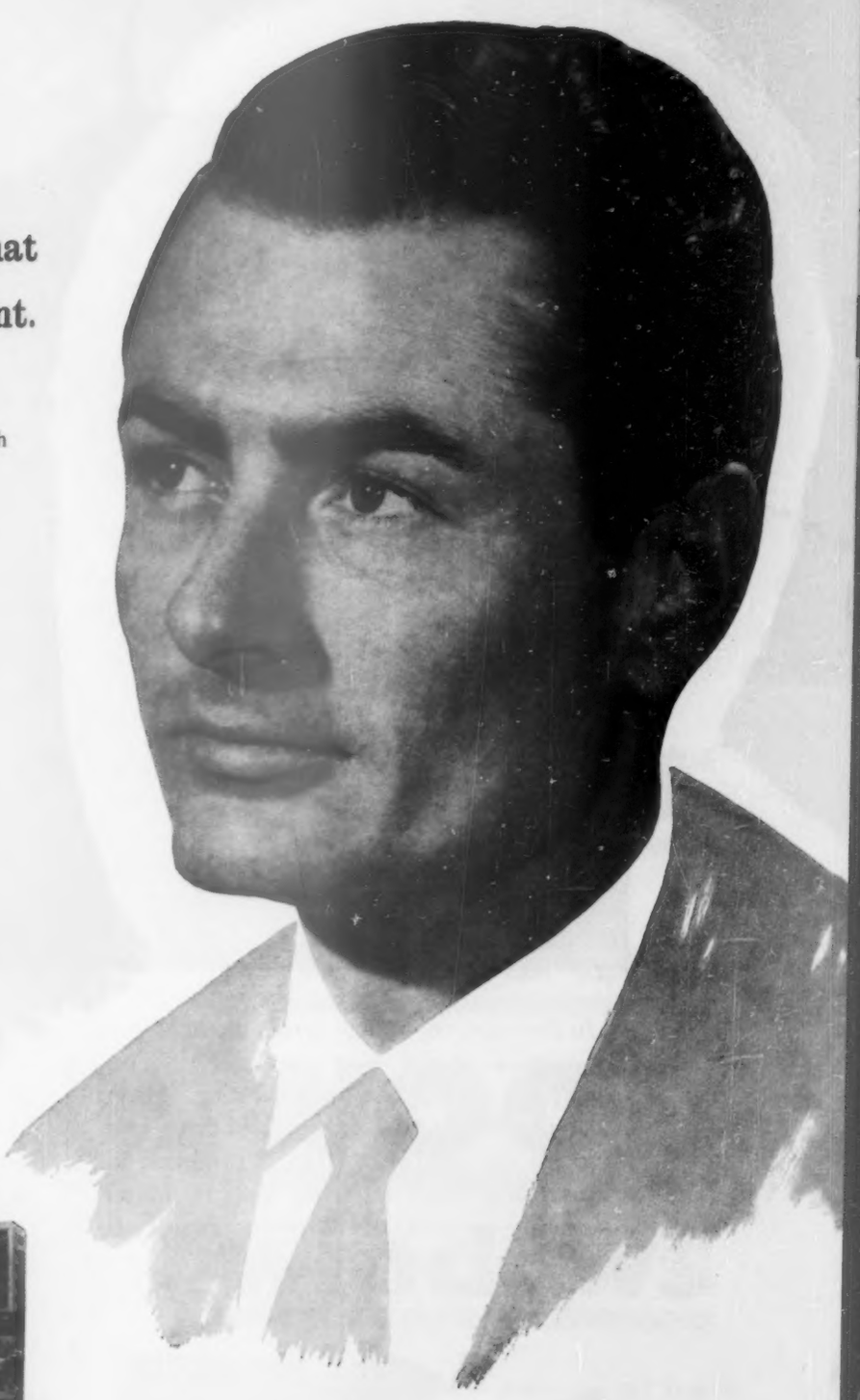

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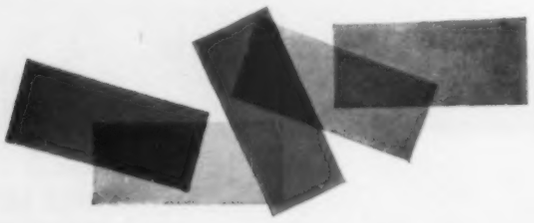

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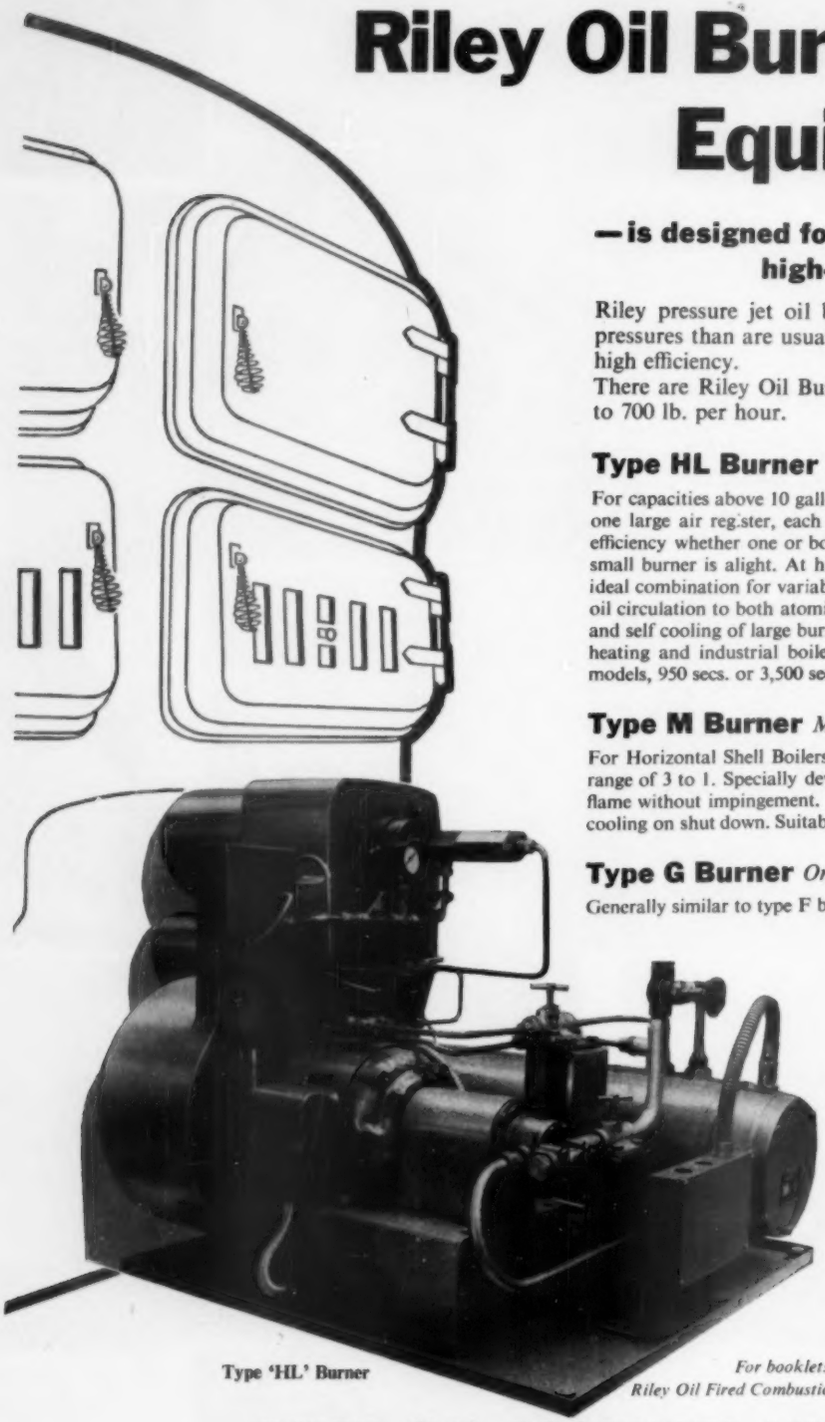

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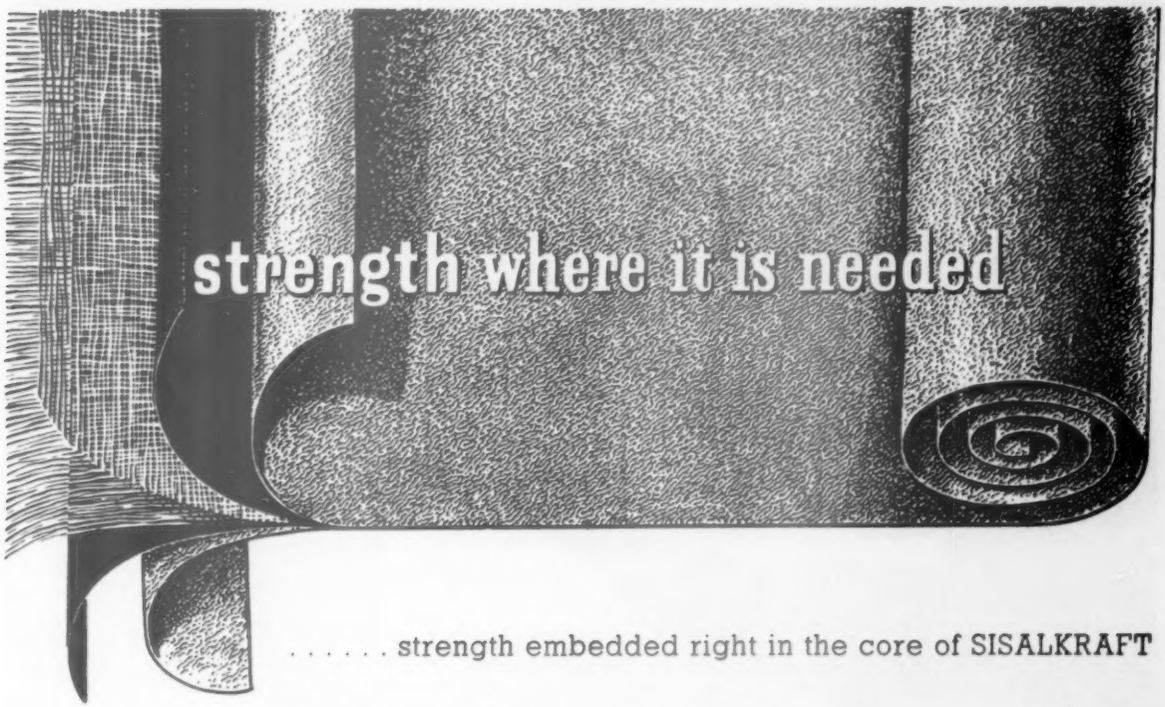

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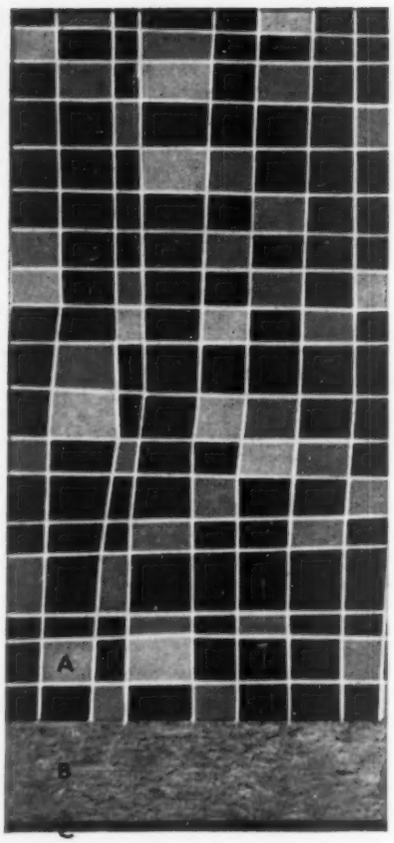

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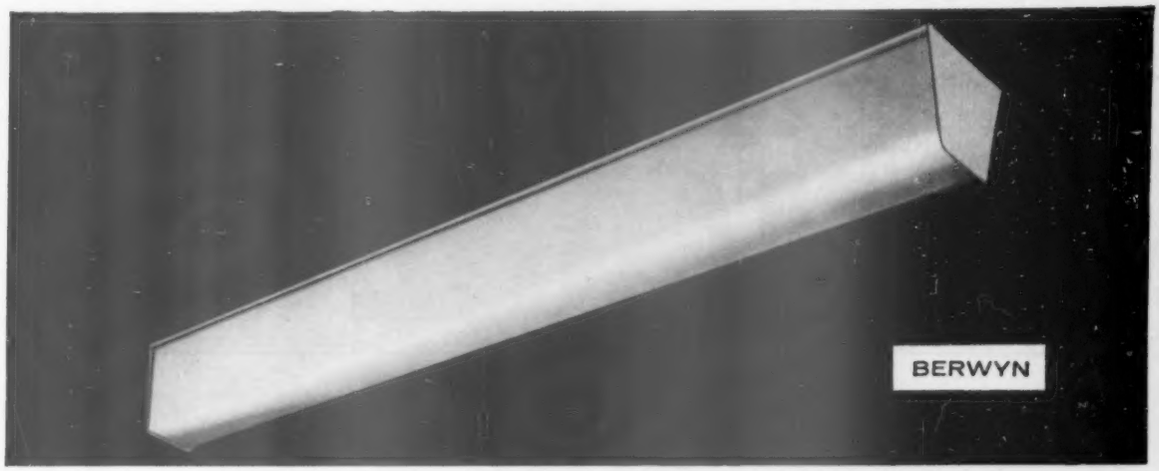

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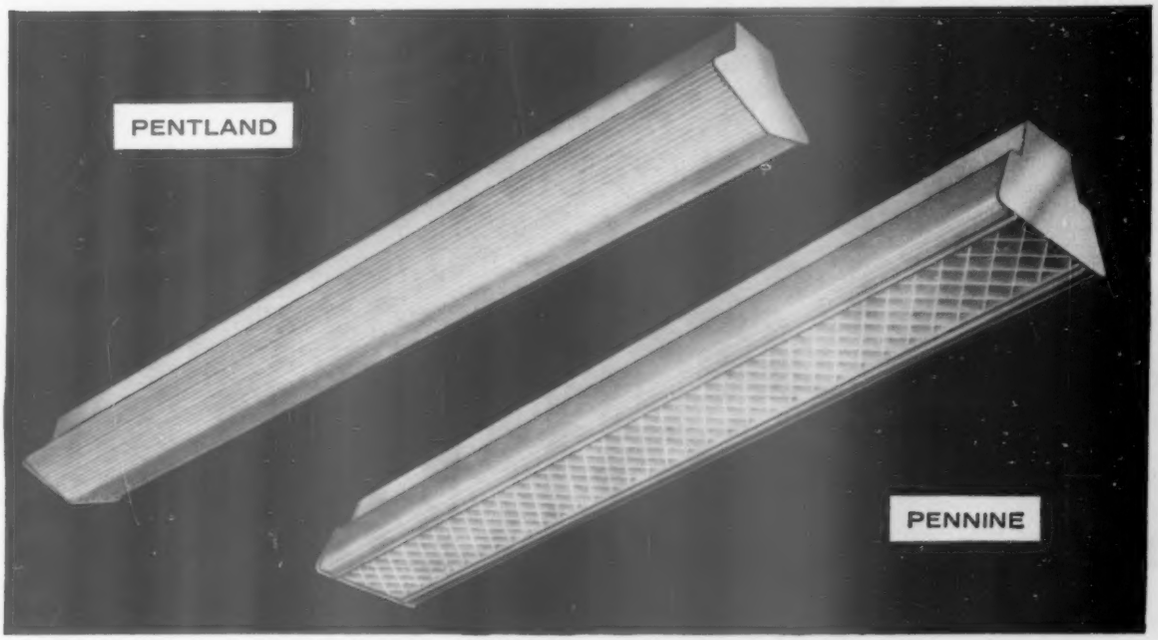

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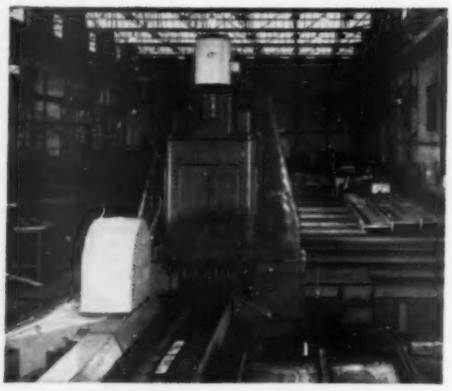

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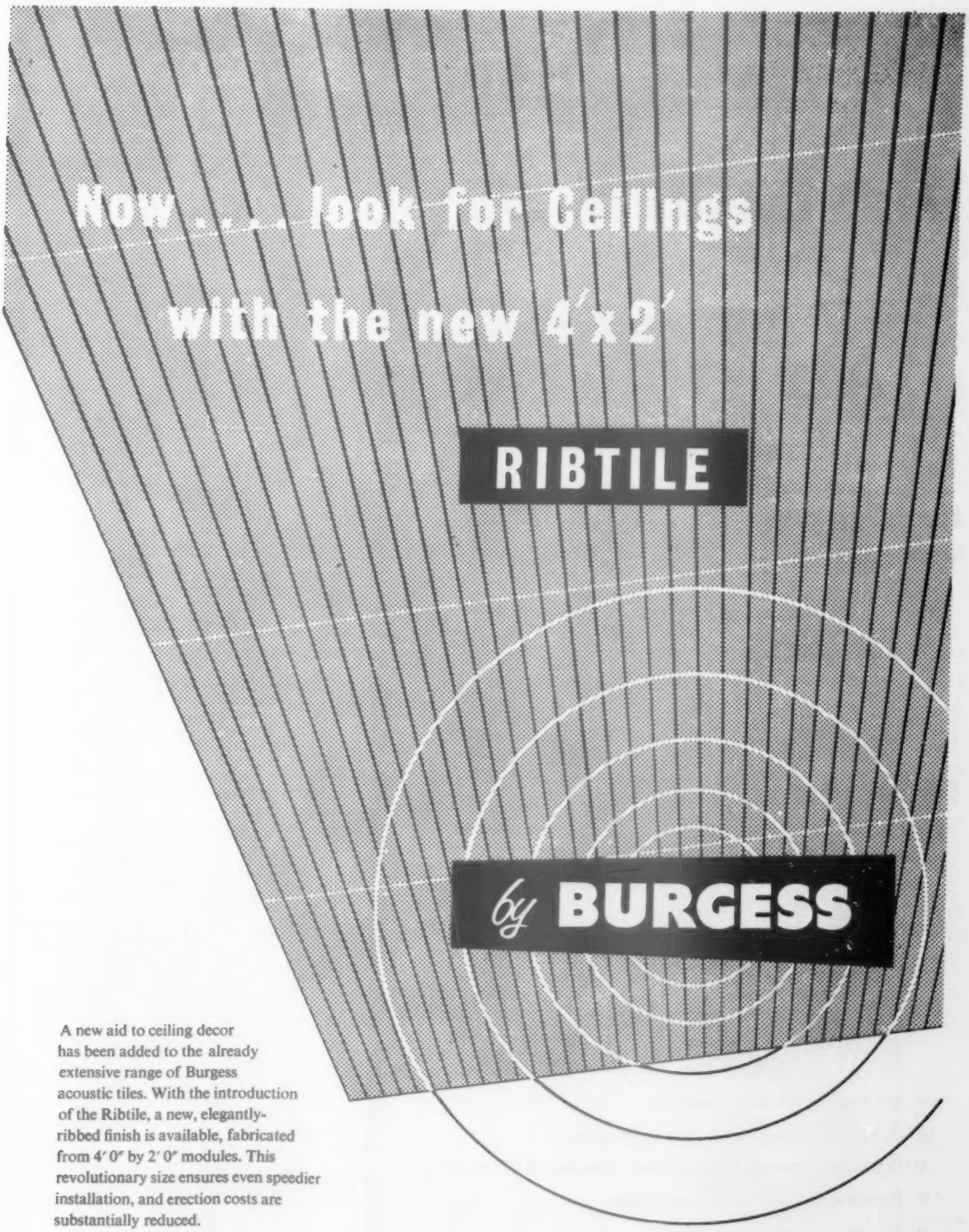

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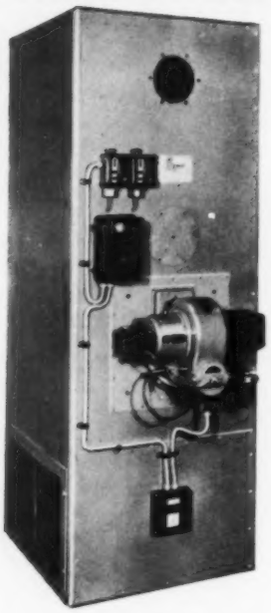

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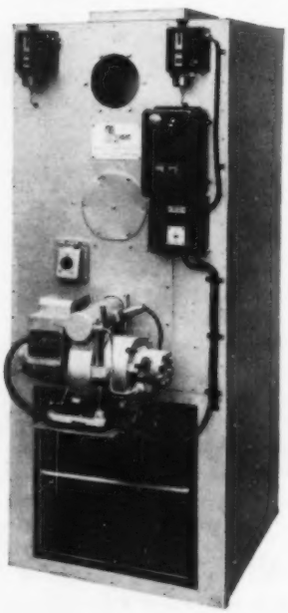

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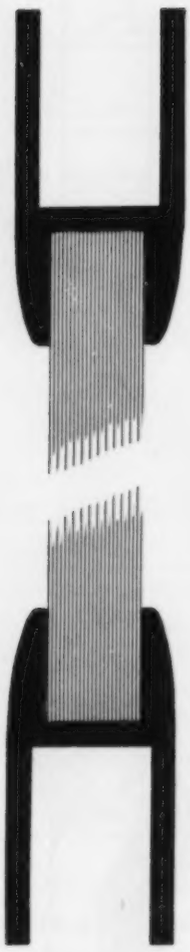

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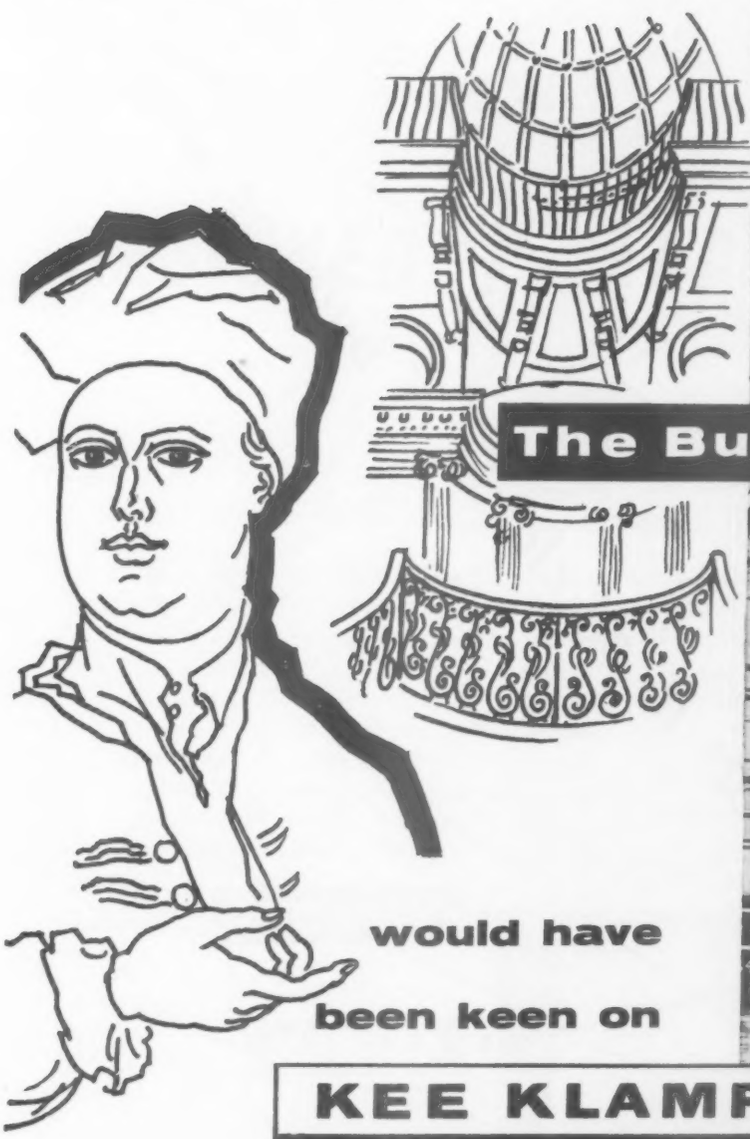

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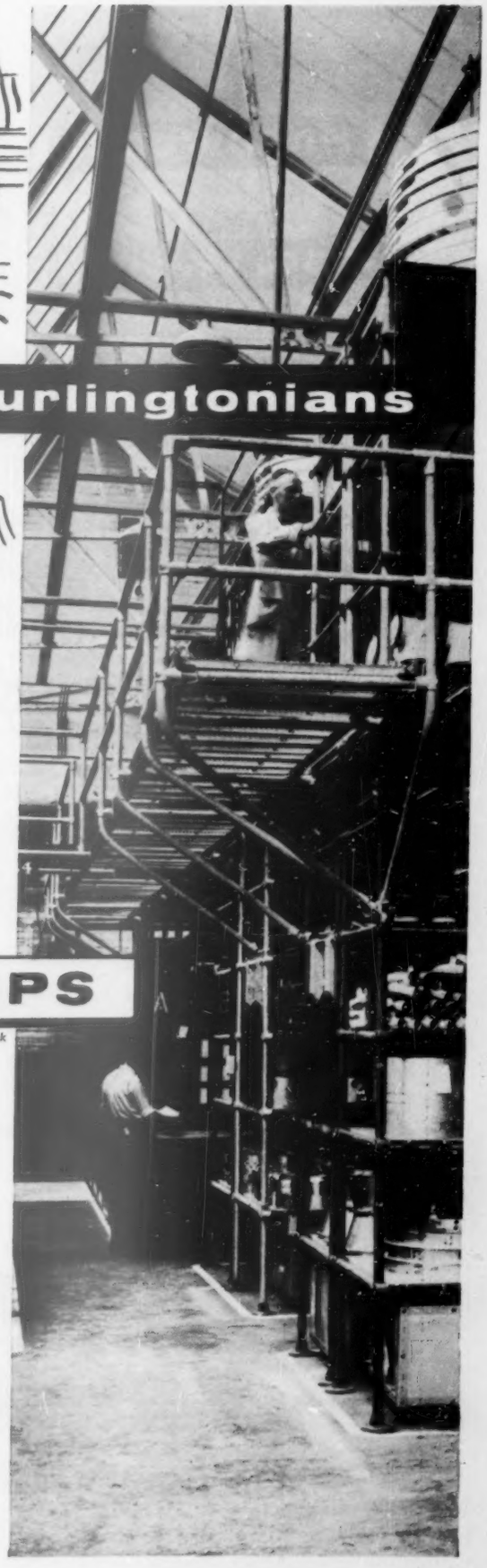

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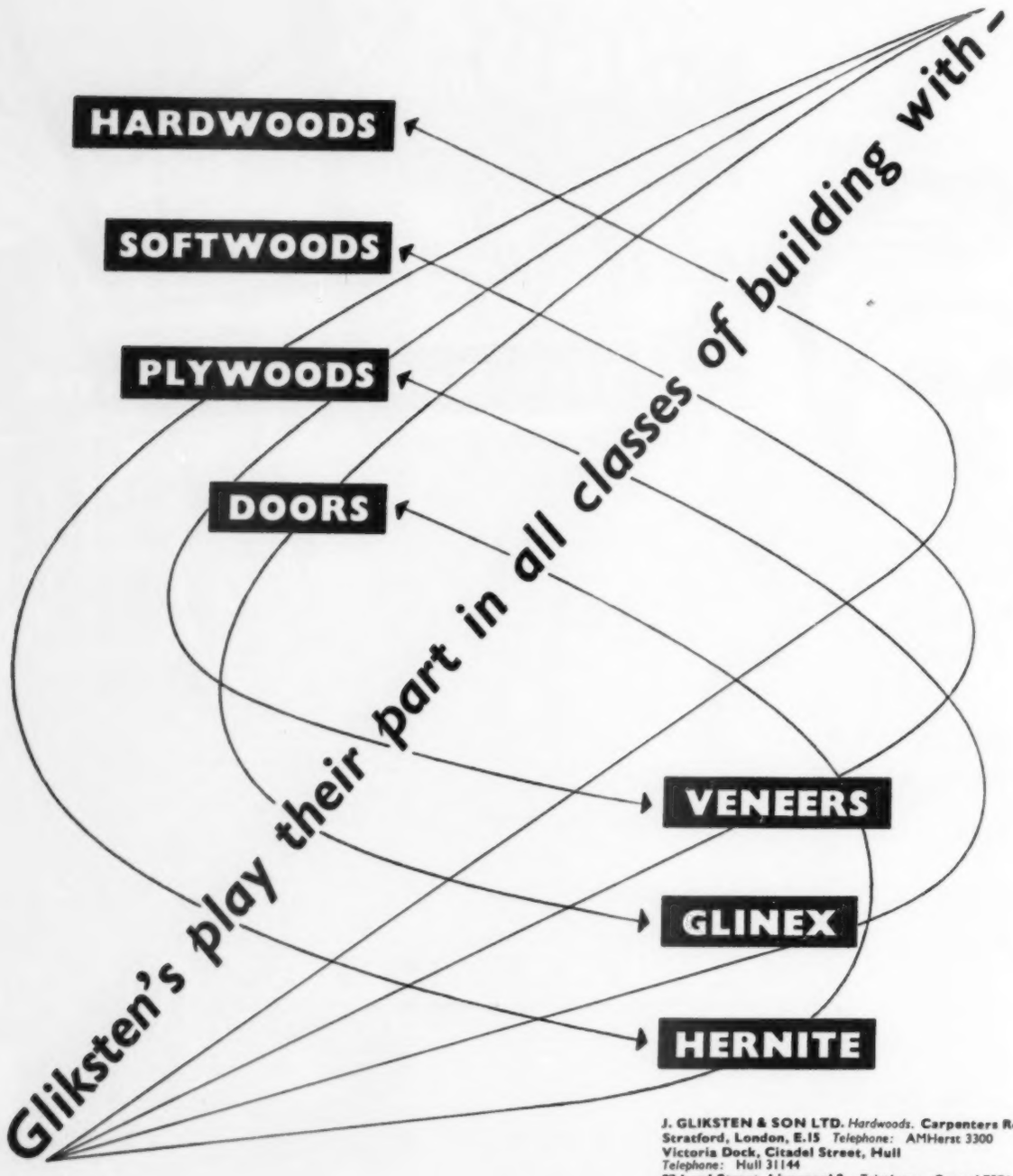

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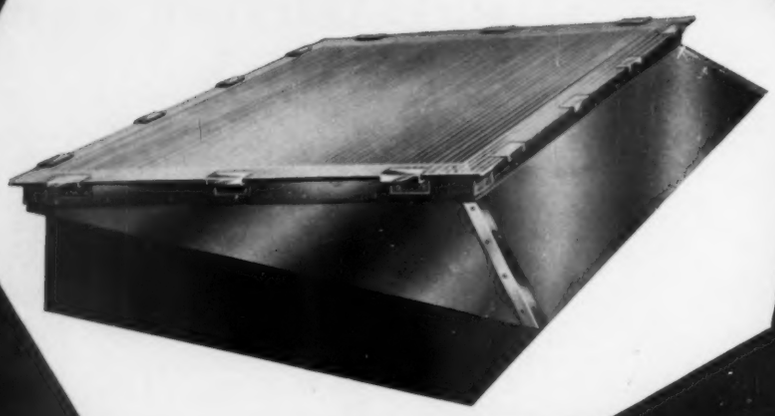

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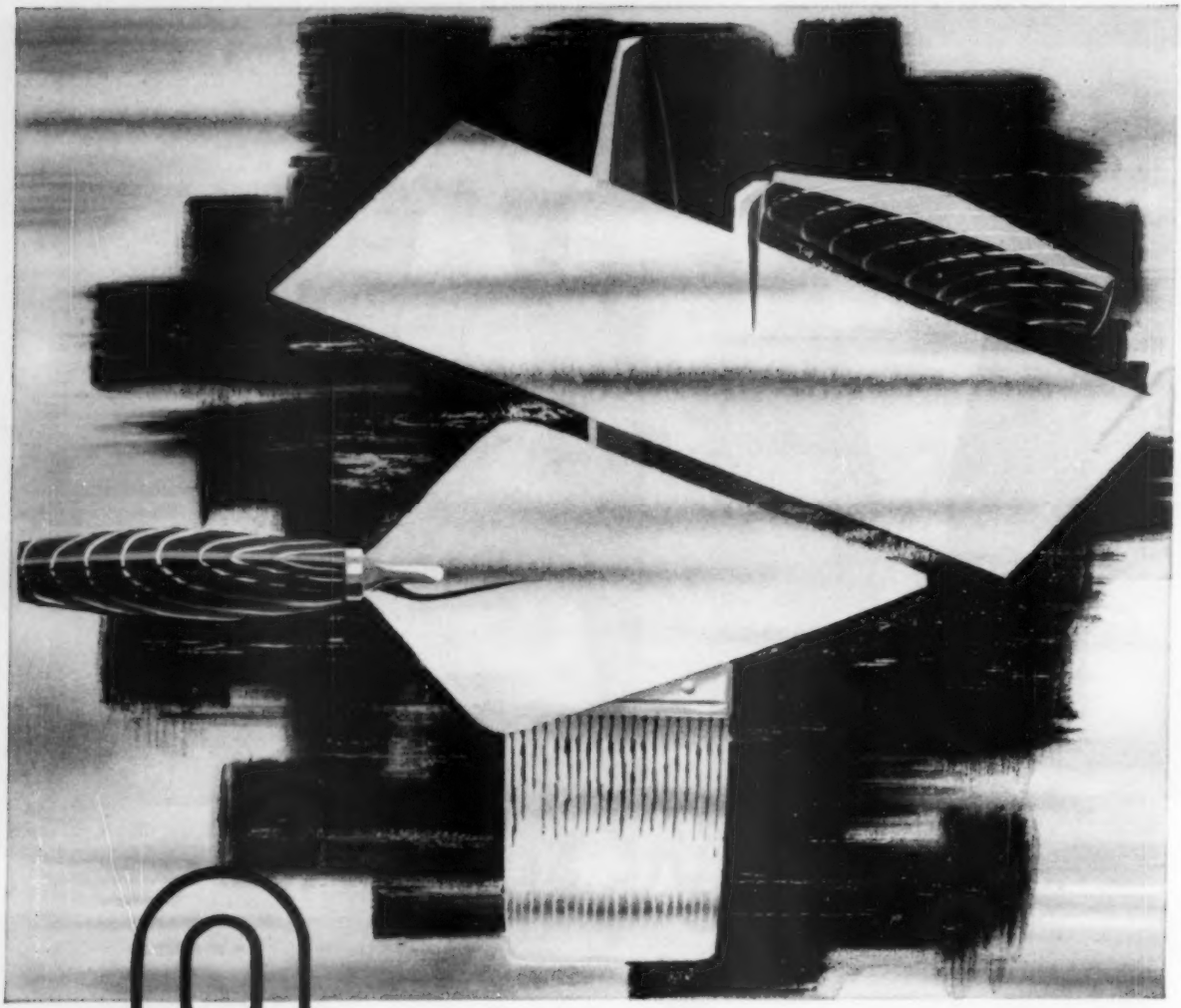

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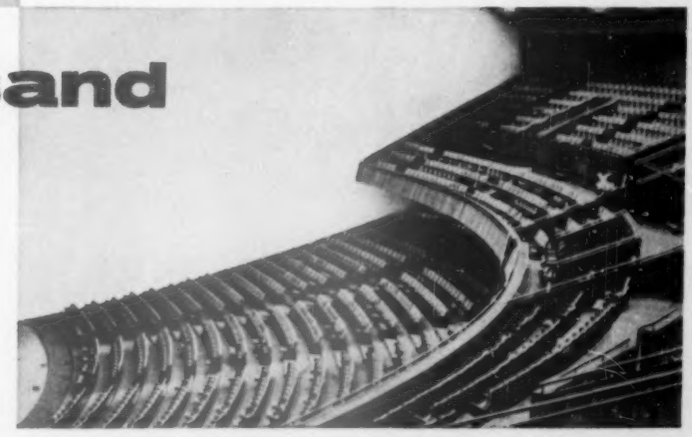

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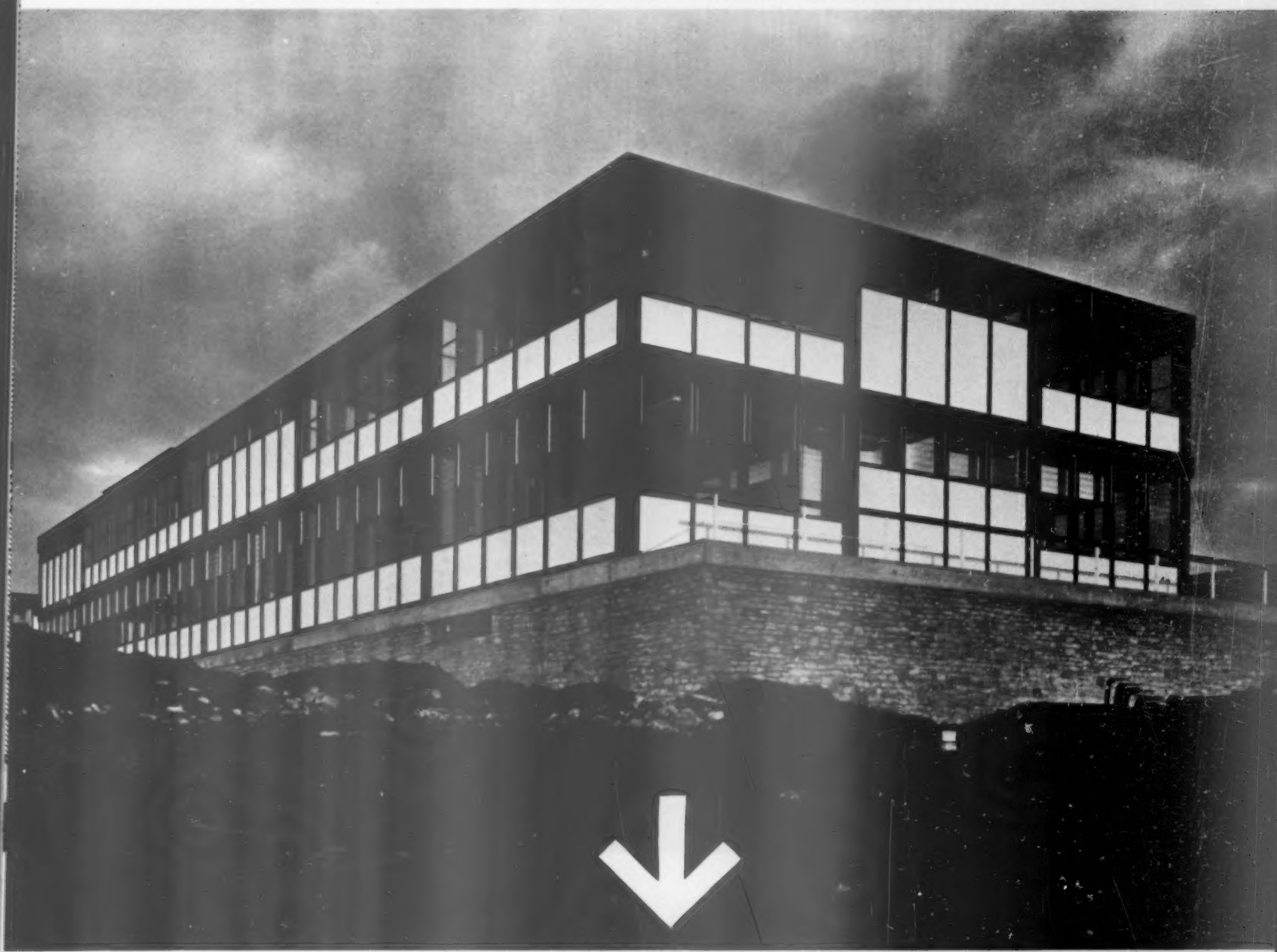

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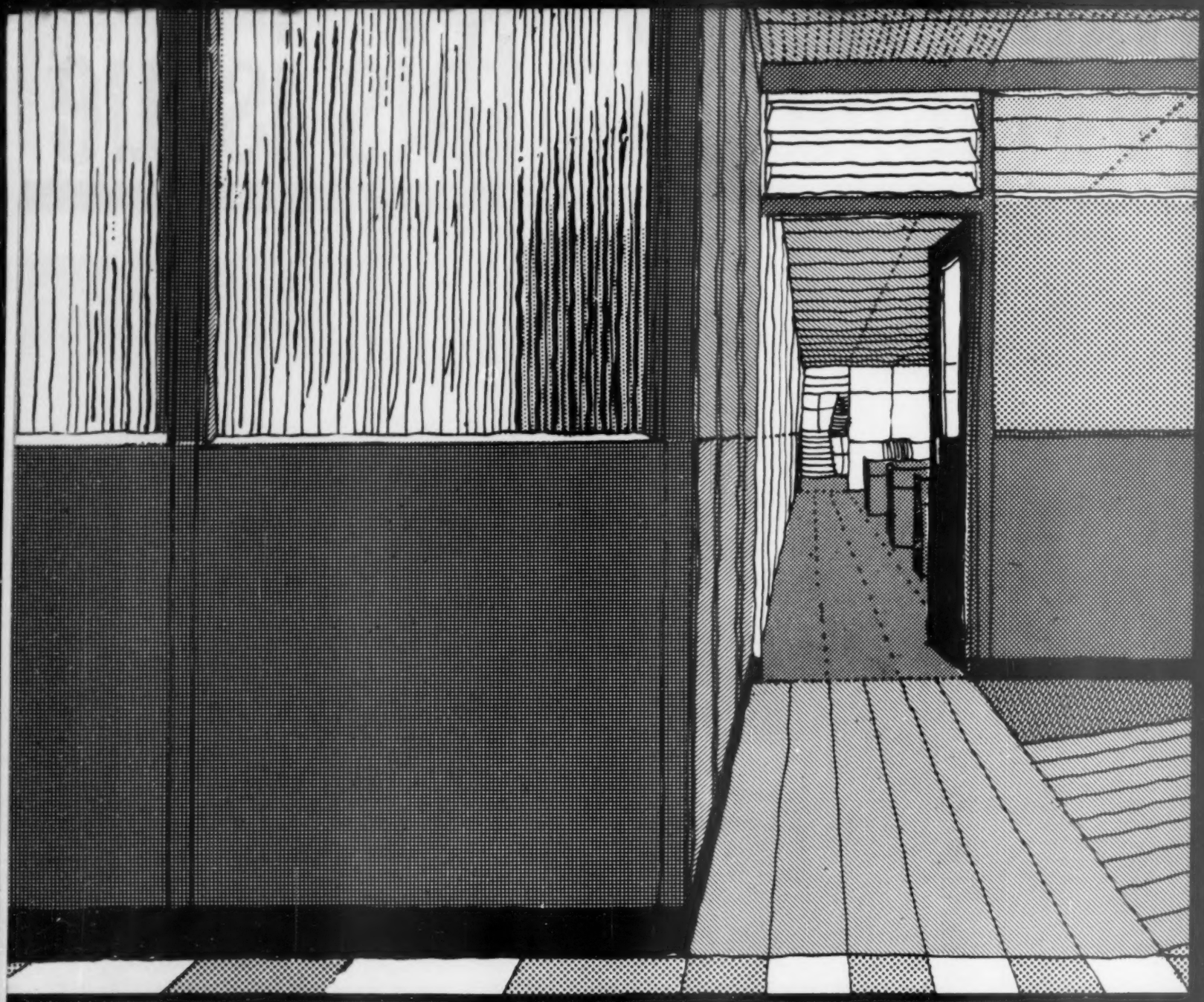

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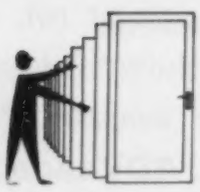

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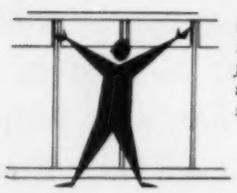

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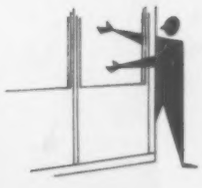

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TBW/476

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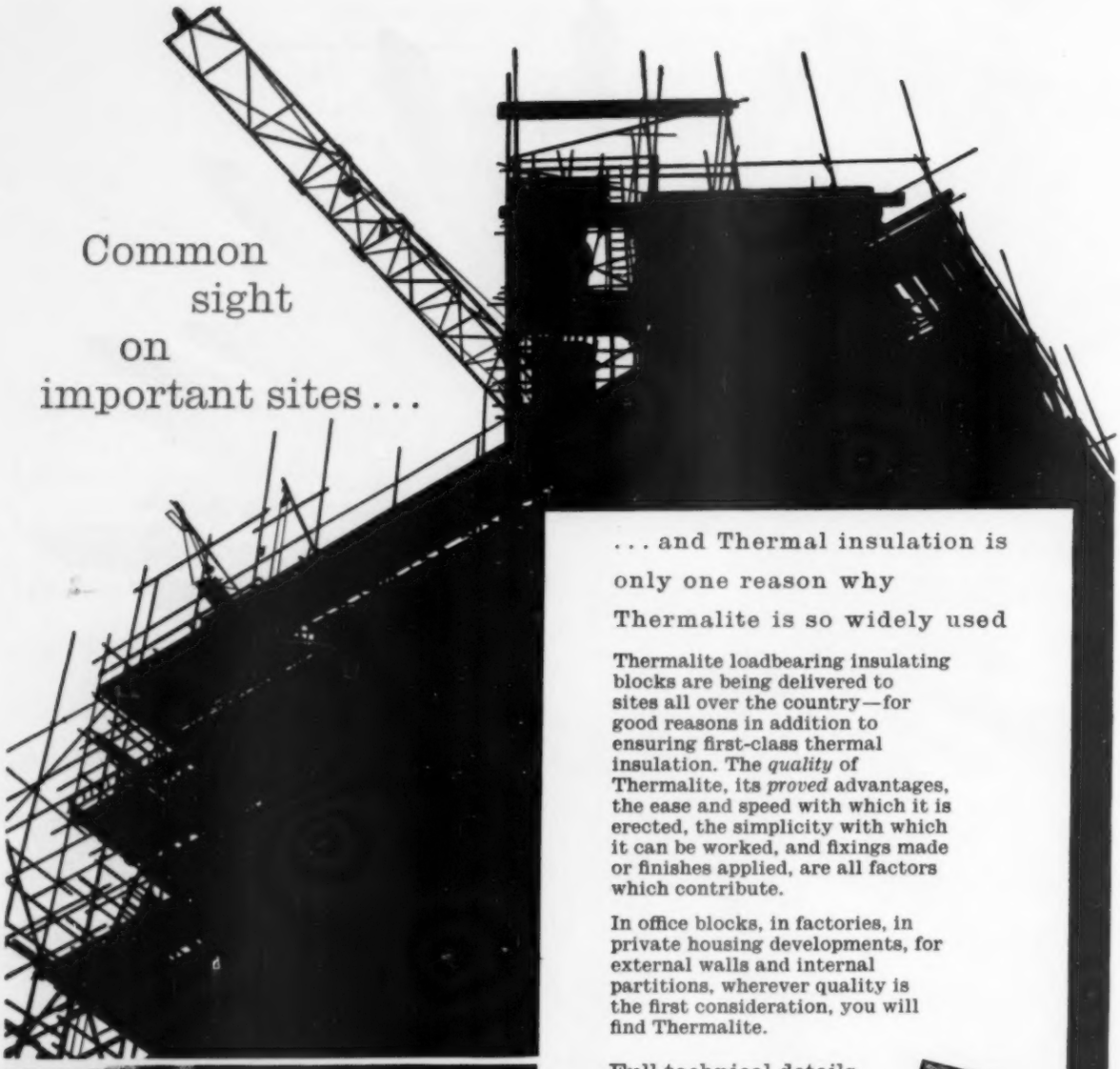

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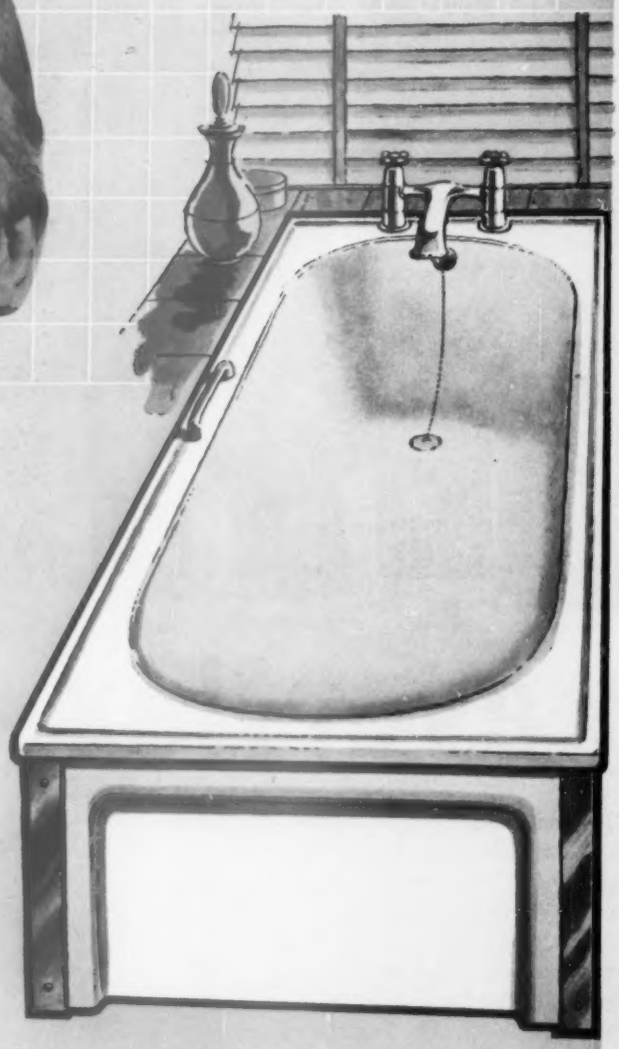

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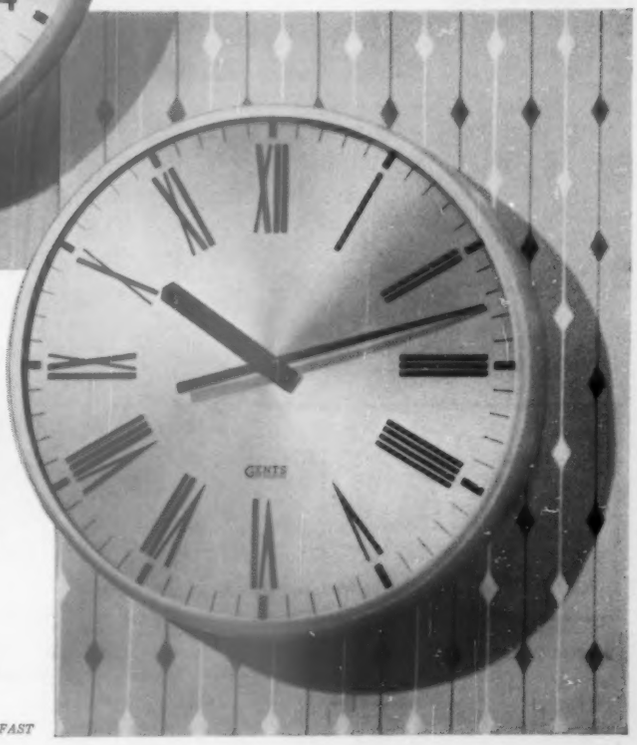

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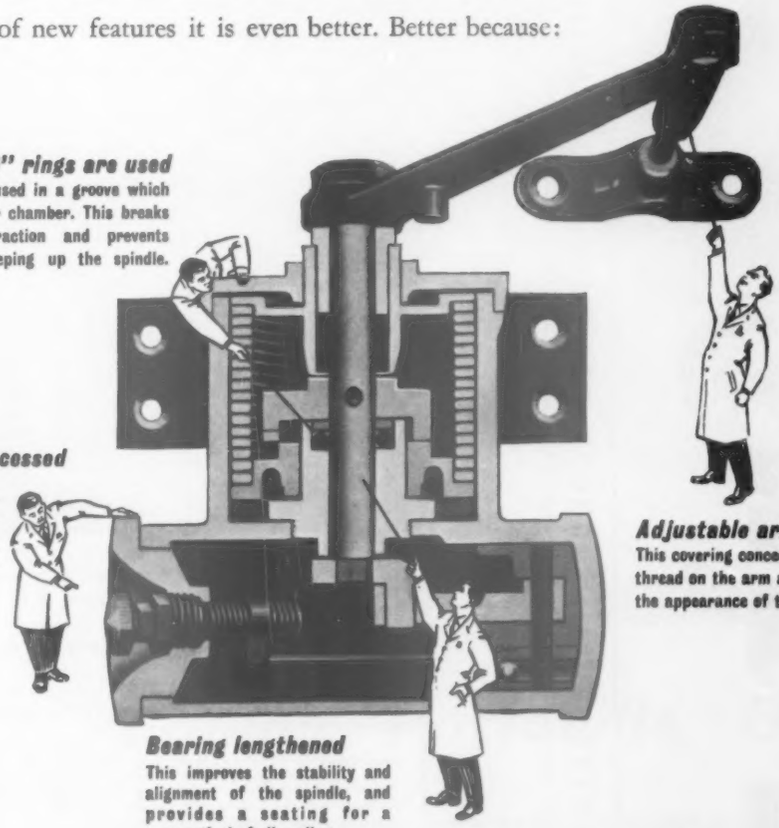

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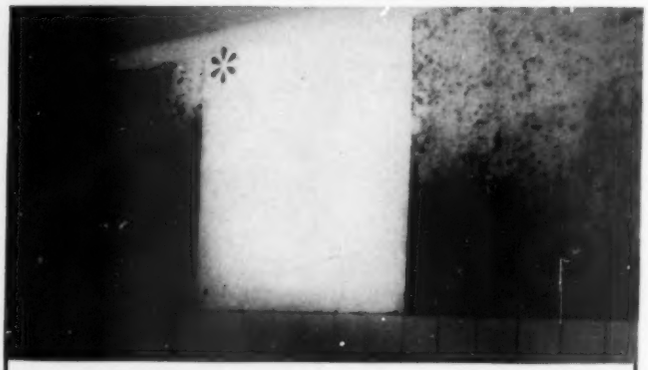

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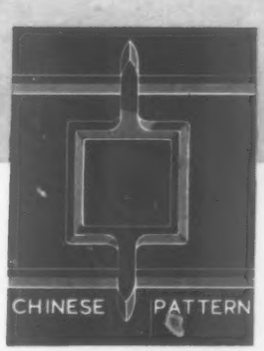

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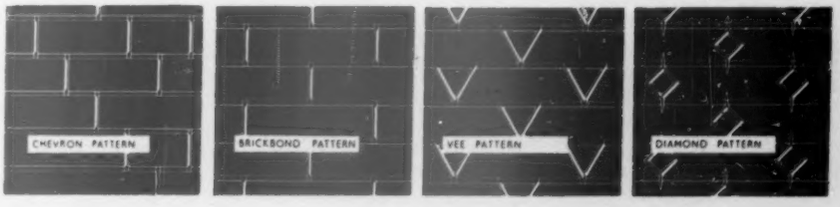

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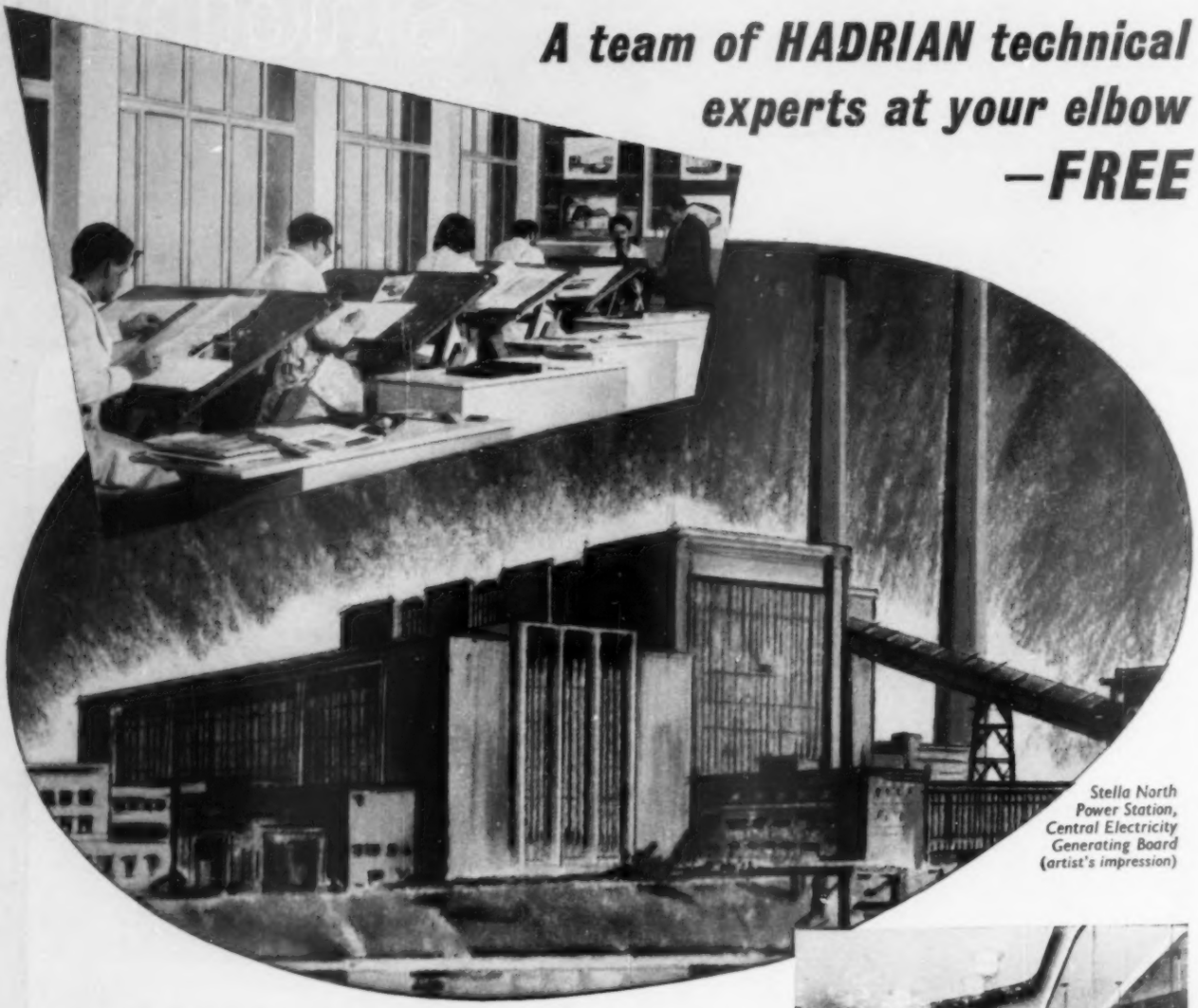

Stella North Power Station, Central Electricity Generating Board (artist's impression)

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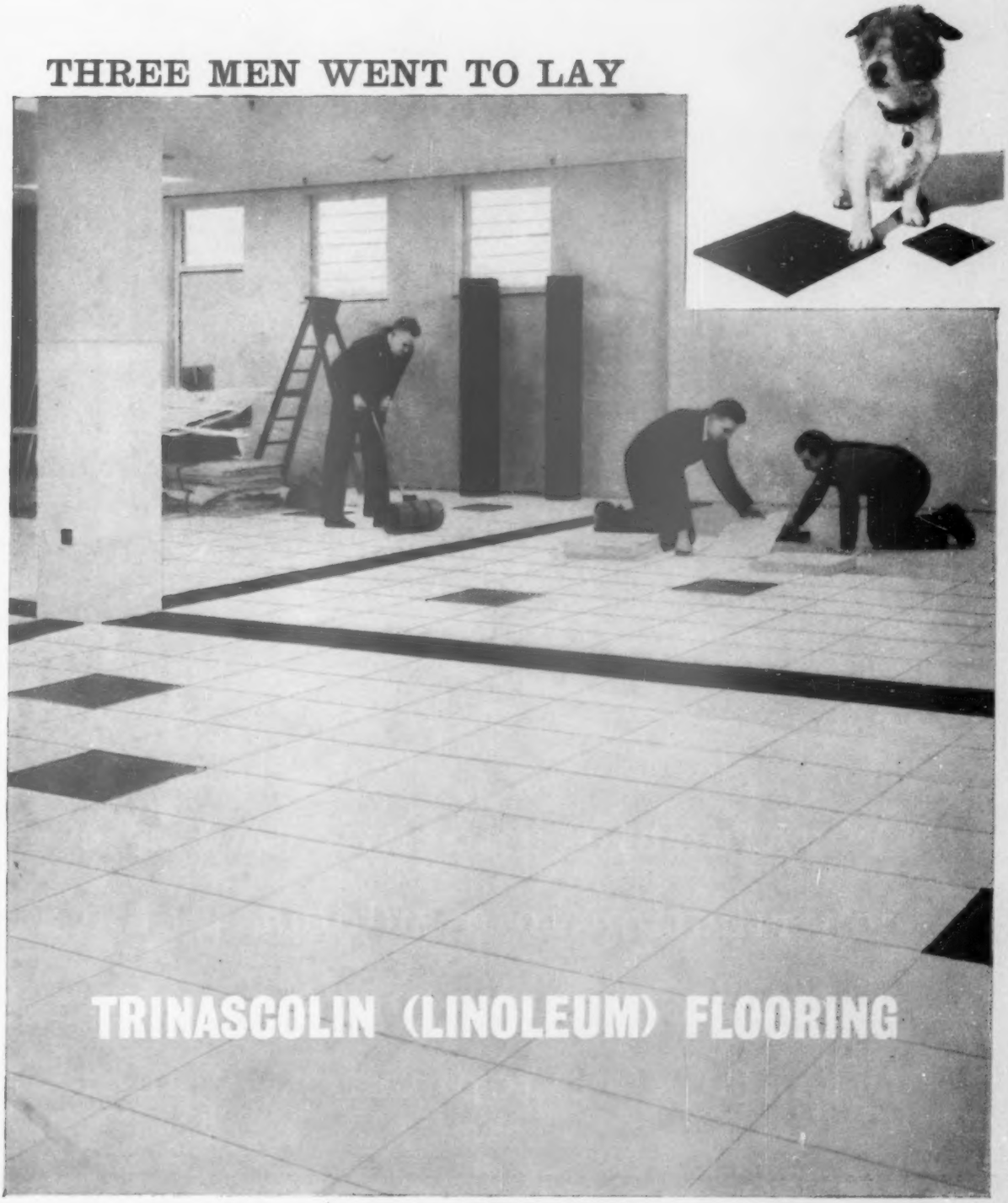

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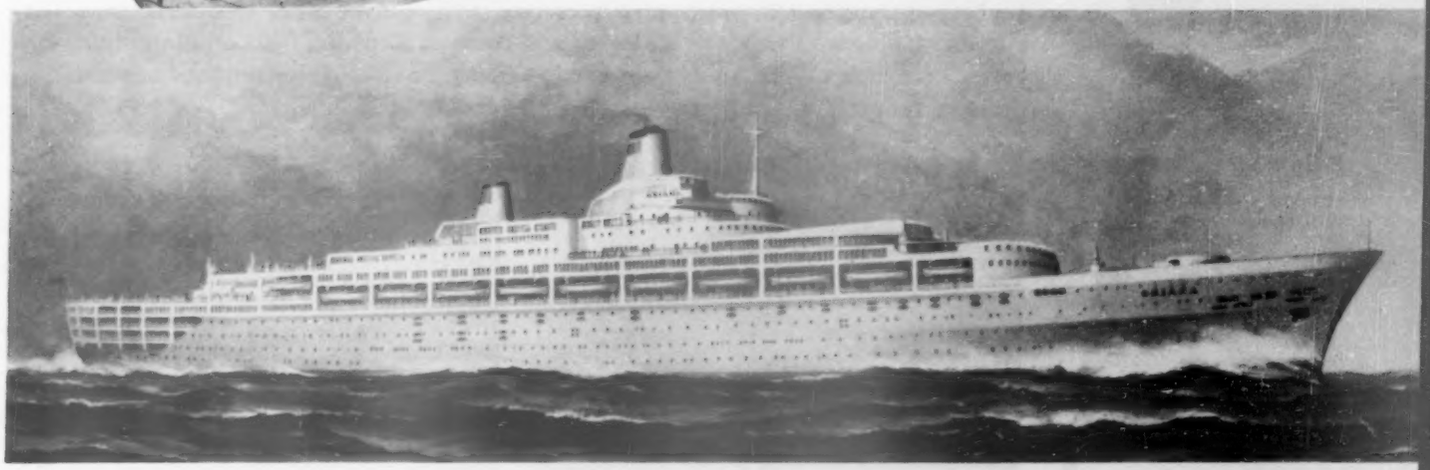
To the specification of R. D. Russell and Partners, interior architects for the cabins.

Illustration by courtesy of the Orient Line.



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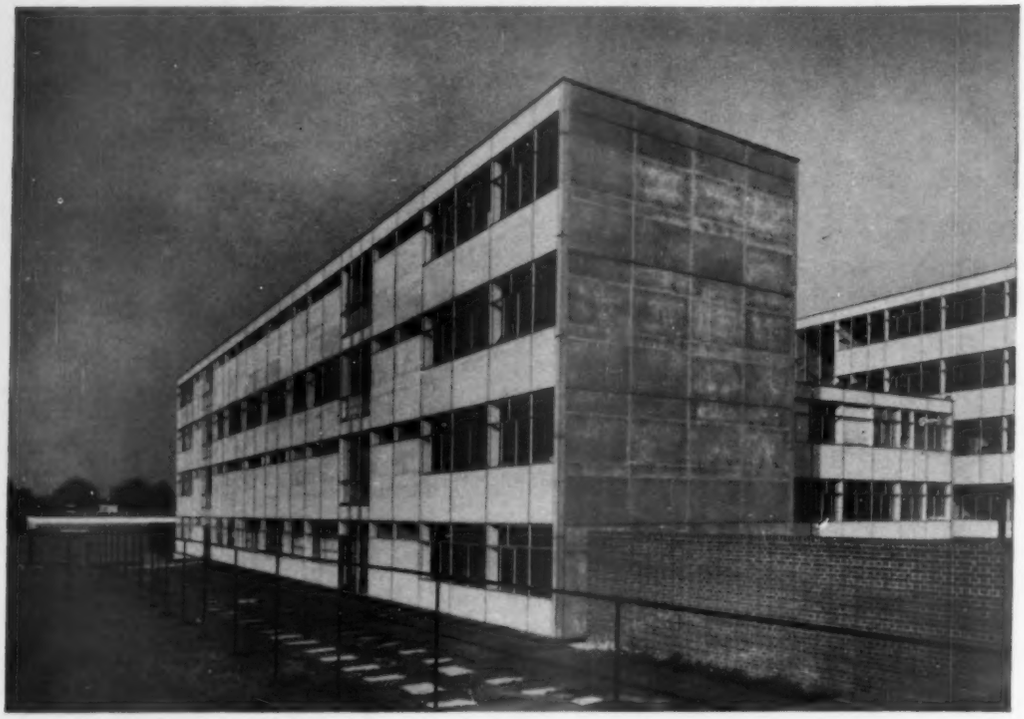

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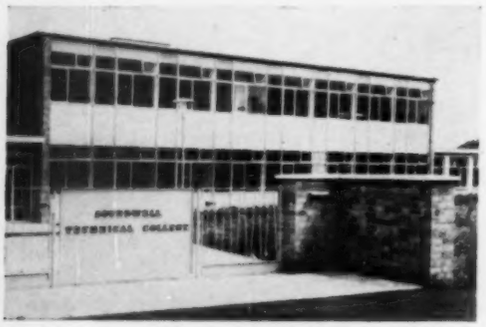
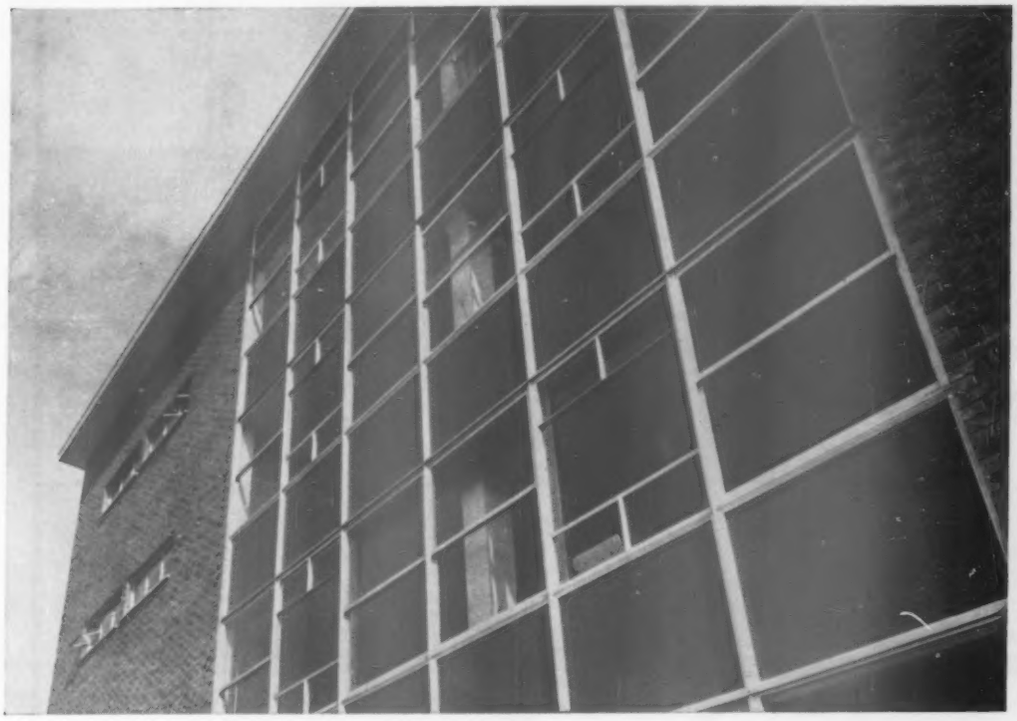


This view of the Soundwell Technical College, Kingswood, Bristol, shows the aluminium Panelgard curtain walling supplied by GARDINERS. *Architect: R. F. Fairhurst, Dipl: Arch. (L'pool),* A.R.I.B.A., A.M.T.P.I.

I.C.T. factory at Castlereagh with aluminium curtain walling construction. One extruded section was used to frame the curtain wall at head, sill and jambs.
Architects: Smyth & Cowser, F/F.R.I.B.A.

ALCAN
ALUMINIUM LIMITED OF CANADA

Aldridge 4 F.E. Grammar Technical School—another example of the use of 'Alwil' anodised curtain walling which is made by ALLAN H. WILLIAMS LTD. *of Coventry. Architect: A. C. H. Stillman,* F.R.I.B.A.



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'Alwil' aluminium curtain walling, manufactured by ALLAN H. WILLIAMS LTD. *of Coventry, was used for the administrative block of the A.E.I. Turbine Generator Division's Larne factory on an exposed site on the coast.*

ALLAN H. WILLIAMS' *'Alwil' curtain walling, colourfully anodised, with stove enamelled aluminium glazing beads, was specified for Aldridge County Secondary Modern School, Staffs. Architect: A. C. H. Stillman,* F.R.I.B.A.

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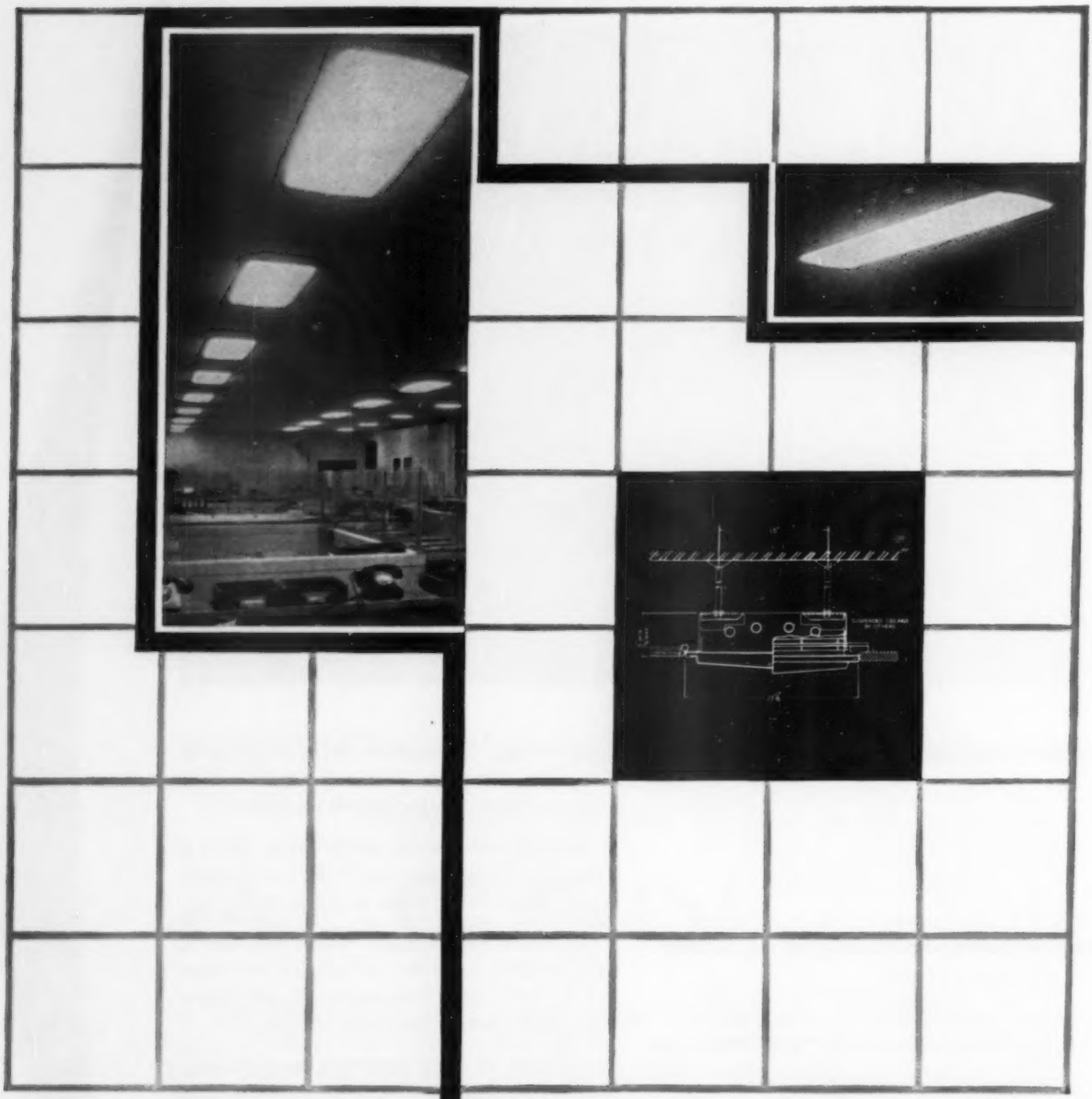

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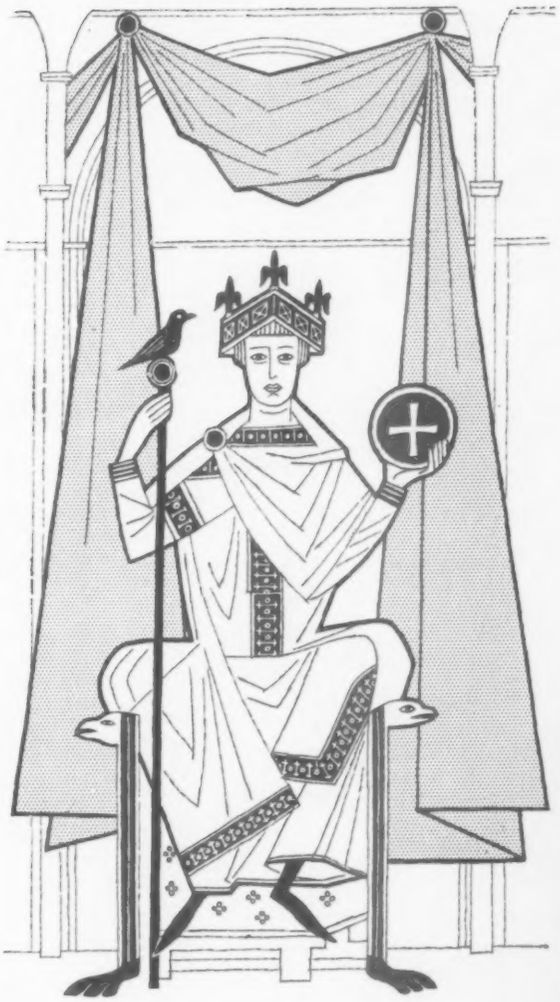

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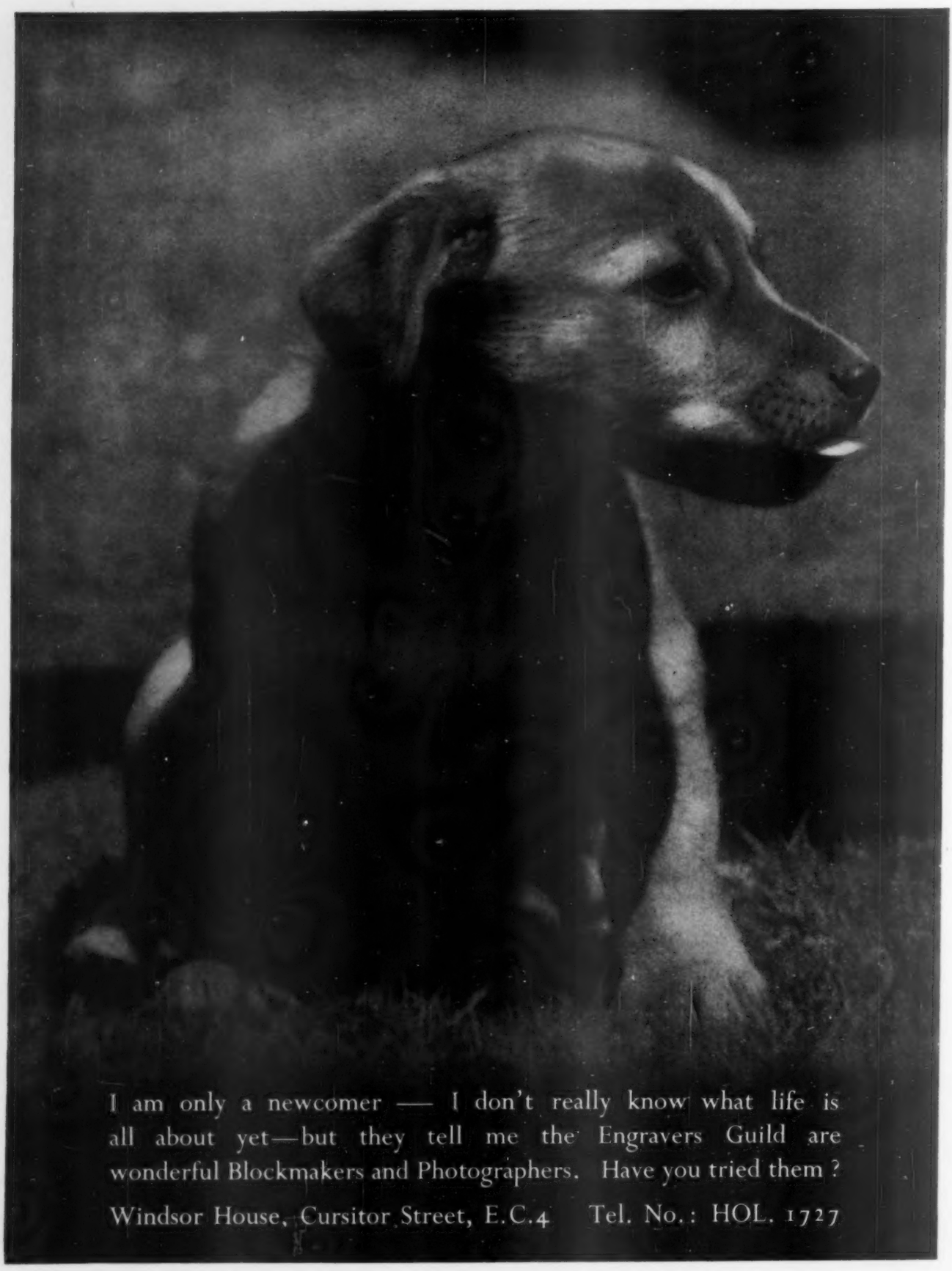
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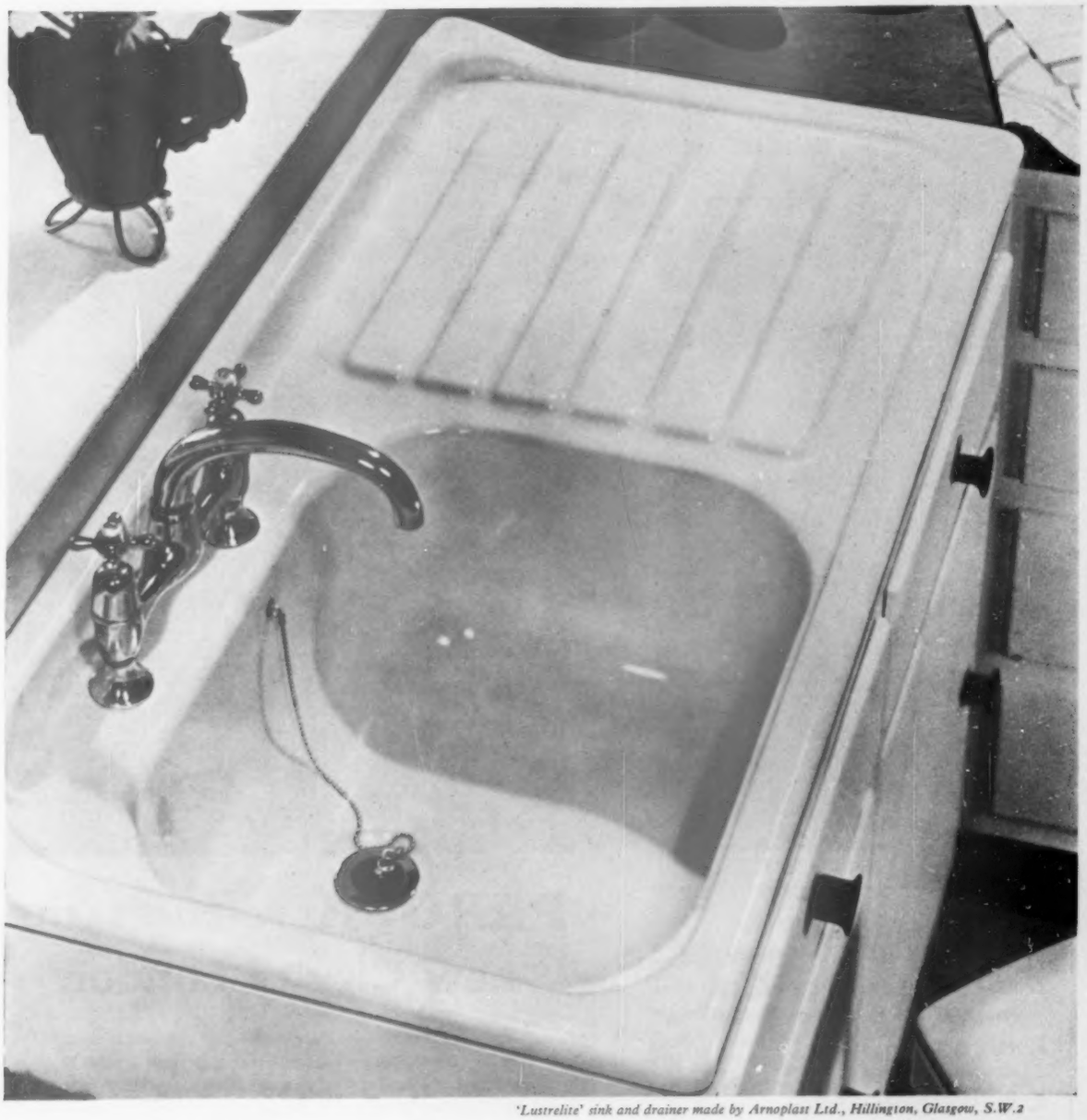

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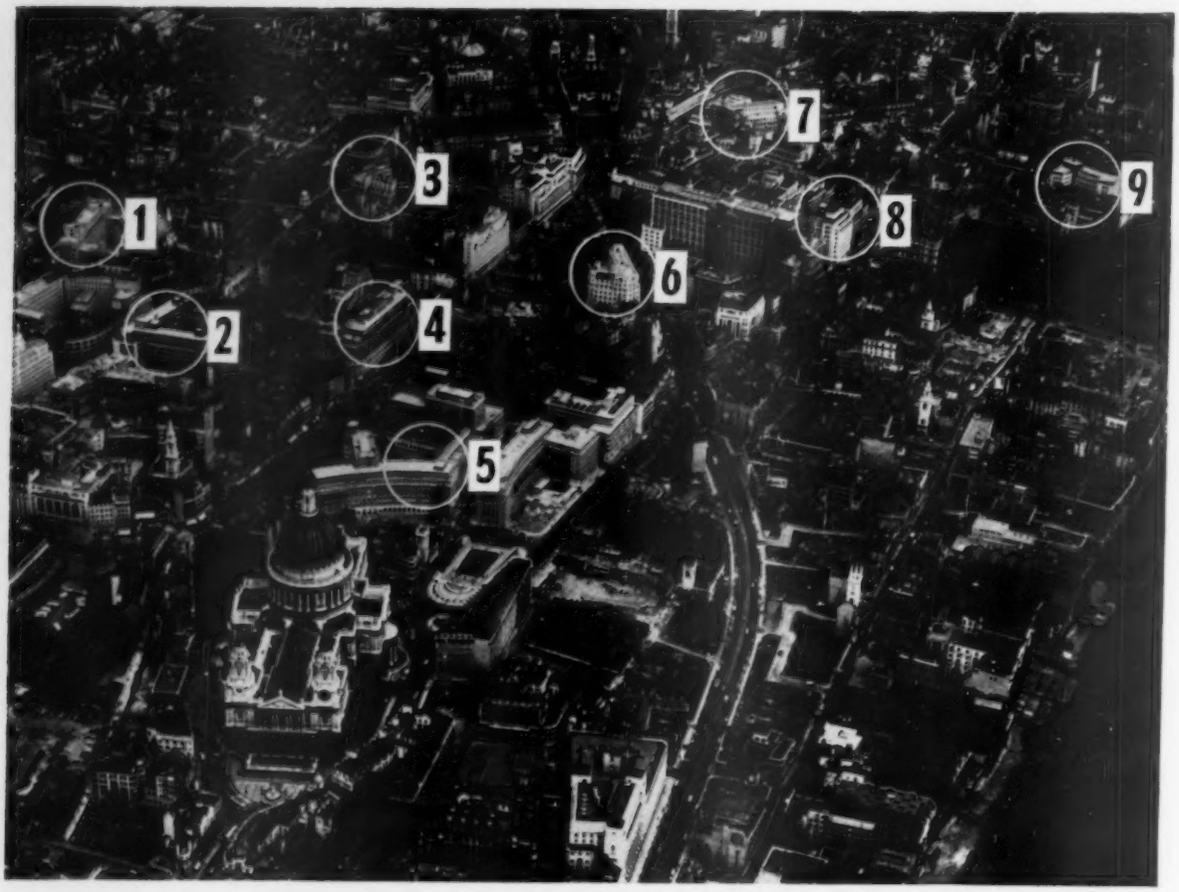

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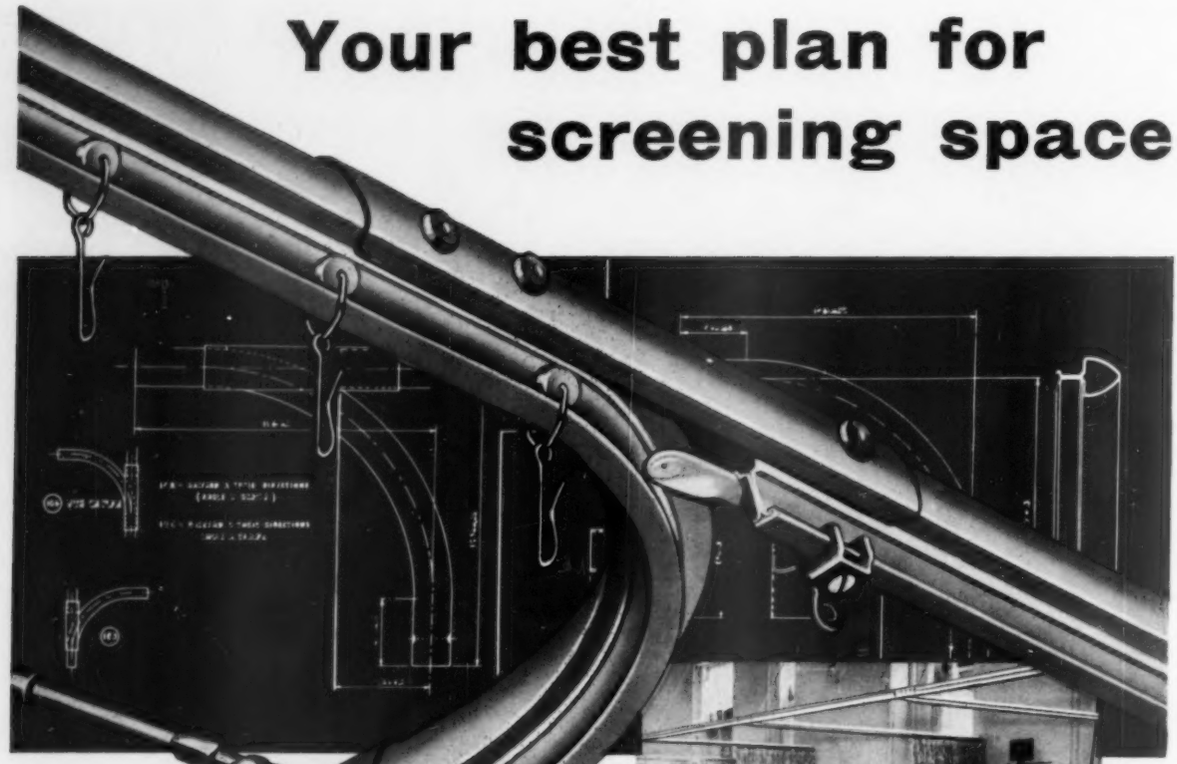

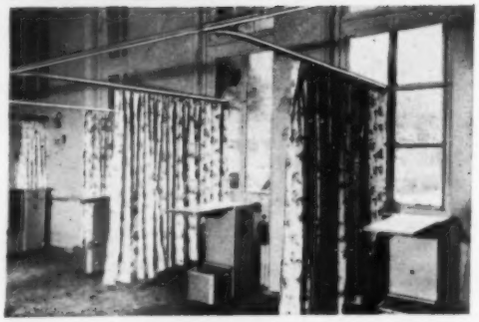

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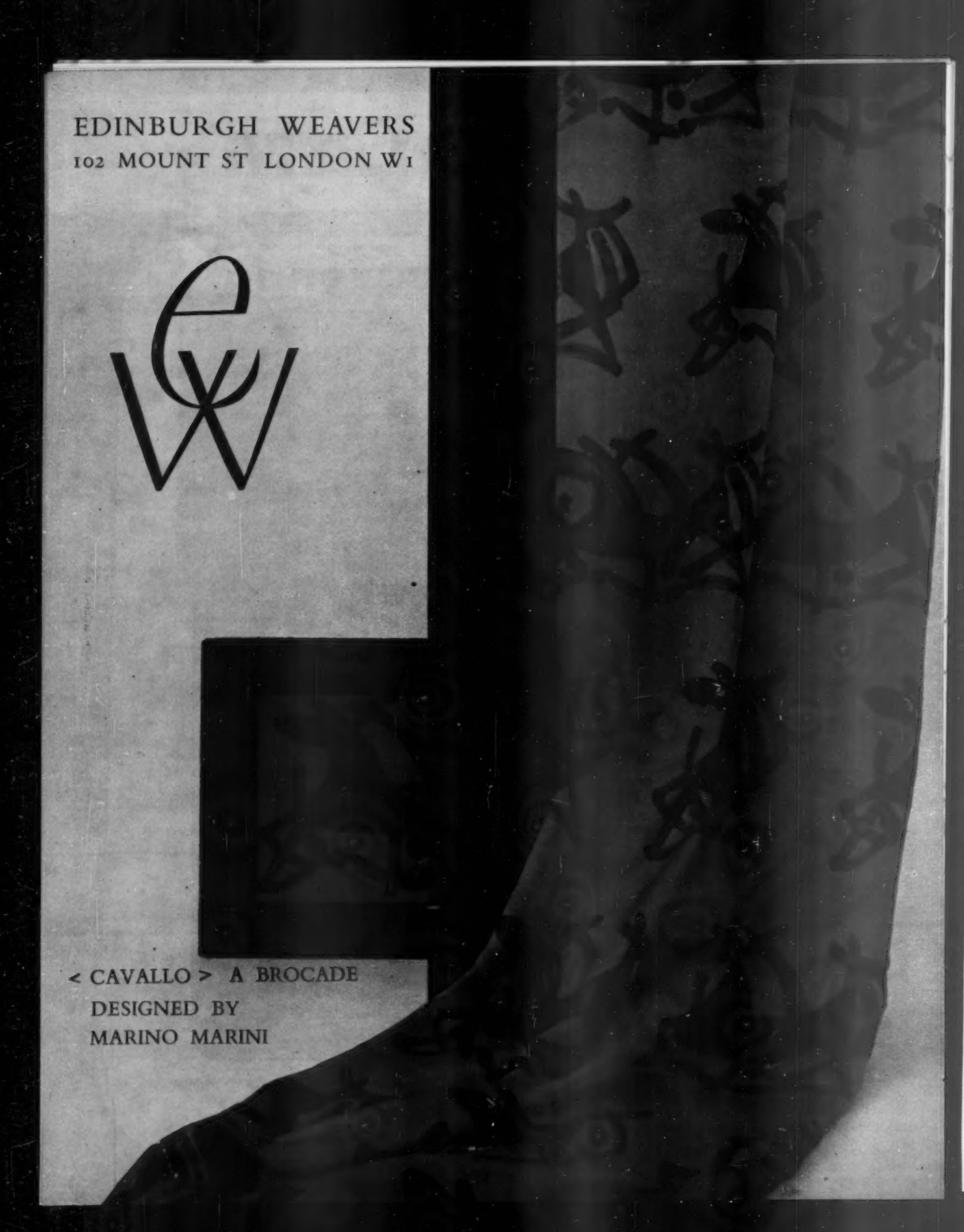

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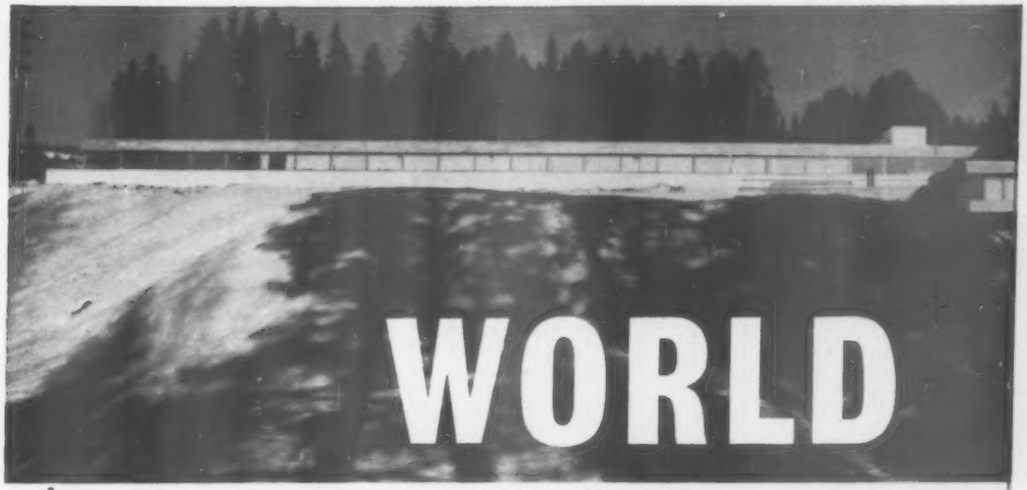

1

MAIHAUGEN MUSEUM

Character and Site Conditions

Sverre Fehn and Geir Grung's museum addition to the Maihaugen Folk-park at Lillehammer, Norway, is a design of sufficiently striking character to deserve fuller treatment than could be afforded it in Michael Brawne's article on museum design (AR, November, 1959). Basically, the scheme comprises two low blocks—one of them very long, 1—stepped one above the other (the lower one containing administrative offices) on the partially terraced slope of a pinewood. The main elements of the architecture are slabby and tough-minded, with a powerful emphasis on the sheltering functions of the massive concrete roofs, 2. *Brutalist* is the obvious word for its conception, but it should be noted that the detailing simultaneously pursues both possible lines of development from this conceptual basis. On the one hand there is the mechanistic employment and enjoyment of in-

2

dustrially-produced materials, exemplified by a direct use of steel tubing, etc., very much 'as found' for such equipment as hand-rails, gates and

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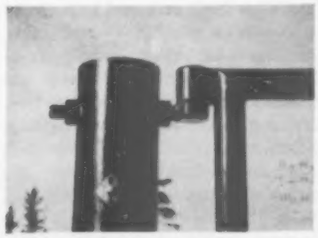

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Although architectural stu
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first adult designers to be fa
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FEBRUARY 1960

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1

MAIHAUGEN

Charact

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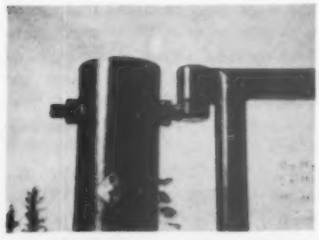

4

WORLD

MUSEUM

racter and Site Conditions

2

dustrially-produced materials, exemplified by a direct use of steel tubing, etc., very much 'as found' for such equipment as hand-rails, gates and

so forth, 3; but on the other hand much of the interior work with, for instance, its roughly planked ceilings, 4, creates an atmosphere that accords equally well with mediaeval or peasant objects and the slightly eccentric quality of sophisticated modern Scandinavian design, as exemplified in the moulded plywood chairs. When one considers how 'respect for the site and local conditions' has been talked down into an excuse for characterless and gutless architecture in recent years, this very positive statement—at once in sympathy and defiance of terrain and climate—is welcome proof that there is another and better way of doing things.

DUTCH PIER PROJECT

Although architectural students occasionally encounter the problem as a school exercise, the Dutch architects Maaskant, Dijk and Apon must be the first adult designers to be faced with a seaside pier for some time. Their project for a new pier is the real thing, 5, complete with restaurants and ice-cream parlours, flags, look-out towers, children's playground, projecting 400 yards into the sea on the front at Scheveningen, the resort-suburb of The Hague. After some deliberation as between metal, wooden and concrete construction, the latter has been chosen, the piles to be driven during the summer of 1960, the superstructure in the ensuing winter so that the pier can be in use in the summer of 1961. As will be observed from the sectional drawings, 6, the seaward end should constitute the only split-level pier in current use.

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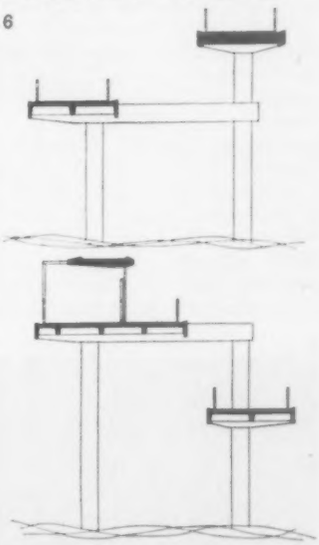

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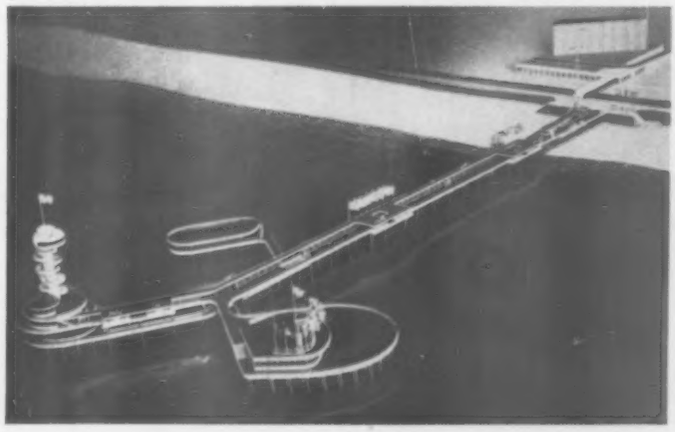


ACKNOWLEDGMENTS

WORLD, pages 77–80: 1, 2, 4, K. Teigen; 3, *Byggekunst*; 5, 6, *Bouw*; 7, 8, 9, 10, 11, *Architectural Record*; 12, J. Voelcker; 13, 14, *Forum*; 15, 16, 17, 18, *L'Architettura*; 20, 21, 22, 23, *Japan Architect*; 24, 25, *Kokusai-Kentiku*. MARGINALIA, pages 81–83: 2, Lambert Weston. FRONTIS., page 84: Georgina Masson *Italian Villas*, pages 85–87: all Georgina Masson. UNIVERSITY LECTURE-HALLS, CAMBRIDGE, pages 88–92: 1, AR aerial unit; remainder, Toomey Arphot. STOCK-TAKING, pages 93–100: 94, Le Modulor, *Form* (after Bernard Rudofsky); 95, *Architectural Forum*, *Wendepunkt in Bauen*; 96, General Motors; 97, Cement and Concrete Association; 98, BERUA; 99, *Casabella*. SWINDON HOSPITAL, pages 110–117: all Galwey Arphot. RUSHBROOK, pages 118–120: 1, Galwey Arphot; 2, AR aerial unit; 3, R. Llewelyn Davies; 4, 5, 6, Galwey Arphot. ID, pages 121–127: 1, 2, 3, 4, 5, Banham Arphot; 6, Toomey Arphot; 7, Banham Arphot; 8, 9, Toomey Arphot; 10, Banham Arphot; 11, 12, 13, 14, 15, 16, Toomey Arphot; 17, Banham Arphot; 18, John Pantlin; 19, Banham Arphot; 20, John Pantlin; 21, Banham Arphot; 22, 23, 24, John Pantlin; 25, 26, Banham Arphot; 27, 28, John Pantlin. DR, page 128: Pantlin. EARLY IRON HORSEMEN, pages 129–130: 1, Locomotives of NER; 2, 3, Locomotives of the LBSCR; 4, Beyer, Peacock; 5, O. J. Morris. CURRENT ARCHITECTURE, pages 131–134: 1, 2, Henk Snoek; 3, John Maltby; 4, Henk Snoek; 5, 6, 7, 8, 9, Sam Lambert; 11, 12, Galwey Arphot. MISCELLANY, pages 135–138: 1, 2, Marc Vaux, Arts Council of Great Britain; 8, Ernest Brown & Phillips Ltd. Counter Attack, Andor Gomme. THE INDUSTRY, 2, Holland & Hannen & Cubitts.

This Month's cover *shows — in a reversed print — part of the proposed multi-level, multi-storey re-development of the over-crowded, under-built areas of the city of Old Delhi; a piece of 'putting-right' — neither laissez-faire nor root-and-branch reconstruction—by which Gordon Cullen proposes to make good the old city without destroying its well-integrated community life. This and other proposals for Old Delhi, and New, taken from the report drawn up by Mr. Cullen for the Ford Foundation's Delhi Regional Plan Consulting Team, will be found on pages 110-118.*

NOT NEO-TIFFANY

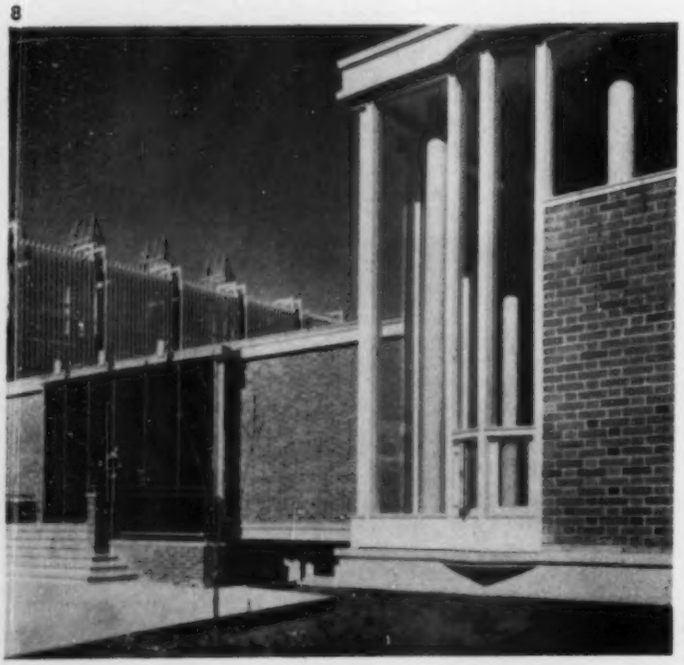
Revivalism and Paul Rudolph

7

The given programme—indeed, the architect seems to have given it to himself—of Paul Rudolph's new buildings for The Jewett Arts Center, Wellesley College, was framed in terms almost identical with those underlying Italian Neoliberty—to fit into an environment dominated by older structures of strong architectural character. As the *Architectural Record* observed (July, 1959), thereby accidentally pinpointing the weakness of Neoliberty, 'These considerations had to be balanced against the temptation of the visual escapism all about.' Perhaps the 'visual escapism' of red-brick collegiate Gothic is less oppressive than the Italian urban scene; Rudolph's architecture, 7, is certainly less oppressed by it. Two reasons may be adduced for this—firstly the forms of the building envelopes, such as the art-gallery, on the right in 7, are not revivalist in any way, but straightforwardly functional; and, secondly, the detail handling, while it occasionally exhibits a character that tempts one to make Italian comparisons, as in the mock-oriels of some of the windows, 8, and however fantastic on occasion, like the much-discussed sunscreens, 9, has a motivation that is functional, not revivalist.

But the basic reason is almost certainly of a more subtle order. Neoliberty stems very largely from the acceptance of a banal and outworn concept of urbanism, a conventional relationship of building-facade to corridor-street. Rudolph may have been lucky with his site, but he has grasped its possibilities for a monumental circulation-scheme based on a purely twentieth century concept of under-and-over, three-dimensional planning, 10, with an almost Baroque enthusiasm, 11, that seems to have died out of Italian modern architecture many years ago.

8



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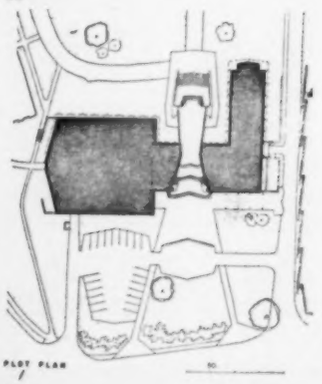

11

CIAM

Resurrection Move Fails at Otterloo

After the official 'suicide' of CIAM at Dubrovnik in 1956, it might seem an unprofitable exercise on the part of some of its ex-members to try to revive the corpse at what was, essentially, a Team-X meeting, at Otterloo as recently as September last year. The

12

attempt failed—after a near-success at a purely legalistic level—but it summoned up two documents of interest before some exasperated hand added the wreath and cross to the notice board seen in 12, with a border of Team-X heads and feet.

One of these documents was Aldo van Eyck's summing up of CIAM history and ideas in a special issue of *Forum* (7, 1959) under the title *Het Verhaal van een* Andere *Gedachte* (The story of an *other* idea). Although this was to some extent a polemical document, since van Eyck is an X-teamster, it has a double value: firstly as an attempt to look back and sum up the development of CIAM over thirty years from La Sarraz; secondly, as an accidental revelation of certain undiscussed tendencies that seem to have been common to all parties in the final polemics of dissolution. On the first count, most valuable is the citation of a series of contrasts between 1930 and 1950, drawn by John Voelcker. Samples: '1930, the frame building and the multi-level high rise city, images which contained a complete urban system; 1950, random images drawn from many sources, containing single ideas which, one by one, contribute to change and extend the experience of space: 1930, Prototype buildings and master plans each charged with the full international urban programme. Irrespective of location—Didactic; 1950, Building in unique situations. The elements articulate and resolve the ecological patterns, and provide instruments of

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CIAM

research into possible developments of each location.'

Yet, persistently, at all levels of discussion, and on every hand, there is a weird strain of exoticism, an inability to make visual formulations about primarily Western problems except in terms of non-Western images. Van Eyck's text is persistently illustrated with pictures of Africans, 13, or Italians (who to a Dutchman

13

are almost equally exotic), and the real life of the western towns with which CIAM was presumably concerned appears only in fancy dress or *en fête*, barring the inevitable mother-and-pram images. Not surprisingly the pay-off scheme is of what X-teamster W. G. Howell has called Wog-type architecture, 14, albeit designed by a Dutchman, P. Blom.

14

The other document comes from the most determined of the CIAM-revivalists, Ernesto Rogers (he stayed away from a conference in Brasilia in order to sit in on the Otterloo meeting). In Casabella (232, 1959) he wrote a personal farewell to the corpse of the beloved, *CIAM at the Museum*—a double-take since he meant not only the Kroller-Muller Museum at Otterloo in which the meetings took place, but also '. . . that imaginary museum housing works proven by the intelligence and the morality which went into them.' He concluded 'The CIAM represents the moment of greatest commitment and solidarity in modern architecture; a commitment still more valid today and more and more necessary if we are not to abandon the debate and our hope for a progressive architecture.'

One sees here the psychological need behind the desire to revive the exhausted organization, the need for support where hard pressed, much more than the need for an international forum. At its lowest level it is what Team-X describe as the 'desire to put the letters CIAM on your letter heading,' at another extreme it is the need for support in a moment of crisis, as with the Italians and at its most urgent level, it is the need for support and guidance on a new road, as it was voiced by the brightest of the new stars in Japanese architecture, Kunio Maekawa—'The young English architects are mad to kill off CIAM when we need it so badly.' This last matter alone need rest on the consciences of Team-X, but it must rest firmly, and it is to be hoped that something can be done to get some of them to the design-congress in Japan this year to explain their motives and suggest alternatives to CIAM.

IS GLAUS A CORBUSIAN?

The airport buildings at Agno, which serves Lugano, are not quite what one might expect, 15, being neither in the bad old tradition of Cuckoo-Clock Perret, nor in any of the emergent styles discussed in the AR for March and November, 1959. It appears to have roused some controversy in Switzerland, but when Giovanni Bernasconi calls it a 'Variazioni Lecorbusierana' as he did in *l'Architettura*, 49, 1959, the English reader, raised on the stock-brick Jaoulism of British Corbusiasts, is apt to shy off and start pointing out all the non-Corbusian qualities that strike his eye—such as the hard, smart crisp precision that recalls Terragni and his school in Como, which is only two lakes and a mountain away in Italy.

Yet Bernasconi has a case. Otto Glaus, head of the team of architects that designed the airport, worked in Le Corbusier's *atelier* for a number of years. Against this, an ambivalent quality persists in Glaus's other works,

15

16

such as the Palazzo Ferrari in Chiasso, 16, which seems at first sight to be a sort of little *Unité*, yet again reveals the kind of geometrical fanaticism that again recalls the insistent facade-grids of Terragni and other Italians in the late thirties. Conceivably there will always be regional varieties of Corbism, but it is worth noting that many of the most satisfying and convincing aspects of Glaus's work are those that seem to owe least to *le grand Maître*, as witness the handsome staircase at Agno, 17, or the *sotto-portico* of the Palazzo Ferrari, 18. Could it be that within the Corbusian

17

18

mannerisms there is an original designer fighting to get out, or is it still only a matter of some pervasive *genius loci* of Italian-speaking Switzerland that brings out some hidden strain of Lombardic geometry even in French-trained men with Tyrolese names? The answer probably waits on some solidly historical tome by a German or American art historian, whose aim will be to sort out the mere victims of the *Zeitgeist* from those who have deliberately followed in the steps of the Master—a book that will not be written—for obvious reasons of *amour-propre*—until at least fifty years after Le Corbusier's death.

OFFICIAL ECLECTICISM IN BC

Lest the Commonwealth issue of the AR (October, 1959) should have given too rosy a view of architecture in the four temperate dominions, the illustration of Government House, the Lieutenant-Governor's residence on Vancouver Island, British Columbia, 19, will provide a valuable corrective. The credit [*sic*] for this remarkable design goes, apparently, to C. D. Campbell, chief architect to the British Columbia Department of Public Works, but it seems possible that his hand was guided, to some extent, by expressions of gubernatorial preference—which may account for the lack of persistence in any one particular error, since the back of the

19

house varies between Herts School Modern and Ragstone Odeonesque, and the kitchen, where function, rather than old-time Imperial symbolism, is the dominant, appears to be well-designed. The opportunity to build the new Government House arose through the most recent of a series of fires that have persistently destroyed houses on this site—the neo-Gothic porch is a survivor from an earlier structure—and one would have thought that this chain of coincidences might have inspired someone to demand a design less resolutely timbered and combustible, even if not to require something more visually expressive of British Columbia's part in the bustling and progressive life of the west coast of the North American half-continent.

JAPAN LOOKS WEST

20

Japan is, by recent tradition, a mirror of disenchantment into which the western architect peers for an image of his own worst features—no European imitator of Le Corbusier could look on Motoo Take's Nagasaki Aquarium, 20 and 21, and preserve his conscience untroubled. But occasionally one finds distinguished Japanese architects taking up Western themes that have not been fully explored in Europe or the US, and putting them to work in ways that are completely convincing.

Thus, two of Japan's most serious and progressive architects, Kunio Maekawa and Kenzo Tange, have both recently investigated the plastic possibilities of something that has been left completely alone in Europe—the folded concrete walls of Nervi's conference block at Unesco, Paris. Neither has made an imitation of the original, but in both cases the affiliation is perfectly clear. Tange's is the public hall at Imibari, a free-standing block, 22, alongside his city hall there.

21

The corrugated structure is used to span the hall transversely, so that the rising rake of the auditorium seating climbs past the faceting of the inner face of the walls, as in 23—which also shows that Ronchamp has been laid under tribute for the side screens and acoustic canopy of a stage-front that is not to be described as a 'proscenium opening,' according to the account of the building given by Keiichiro Mogi in *Japan Architect* (October, 1959), since the whole thing clearly stands *inside* the main volume of the auditorium.

The Maekawa version is the Setagaya public hall in Tokio, less clear in its outward expression because joined directly to its ancillary buildings, but internally more clear than Tange's because there is less acoustic baffling on the side-walls, 24. Again, the corrugations of the structure run across the auditorium, but on the corners, one vertical corrugation is taken round on to the end wall, 25, thus solving a problem which Nervi, on Unesco, apparently chose to ignore—that of relating end-walls to side-walls.

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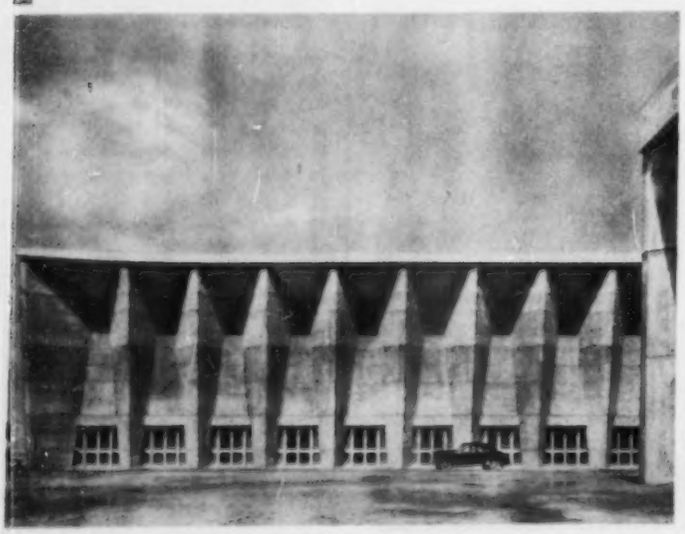

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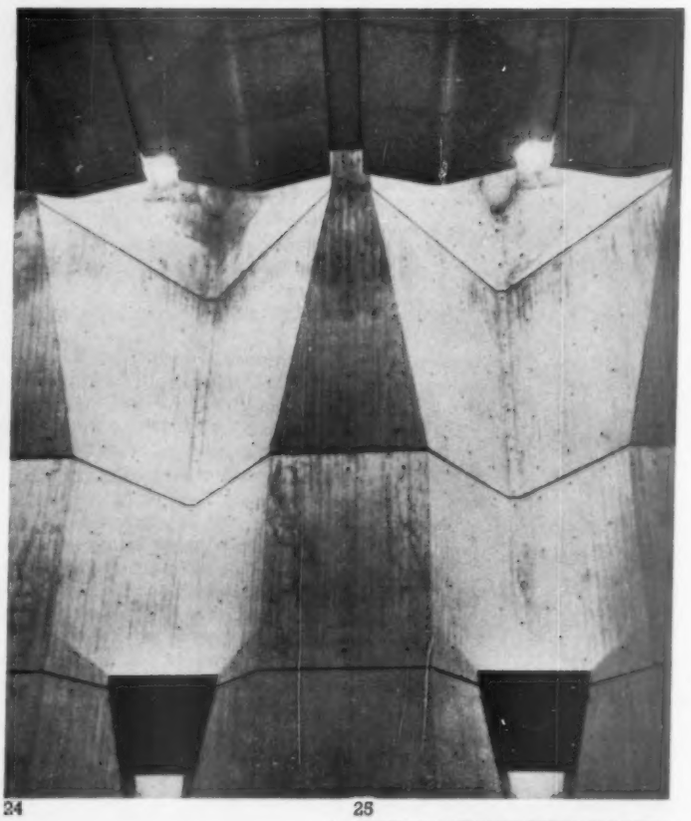

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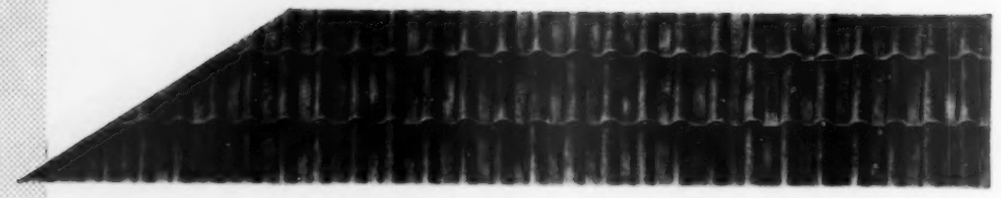

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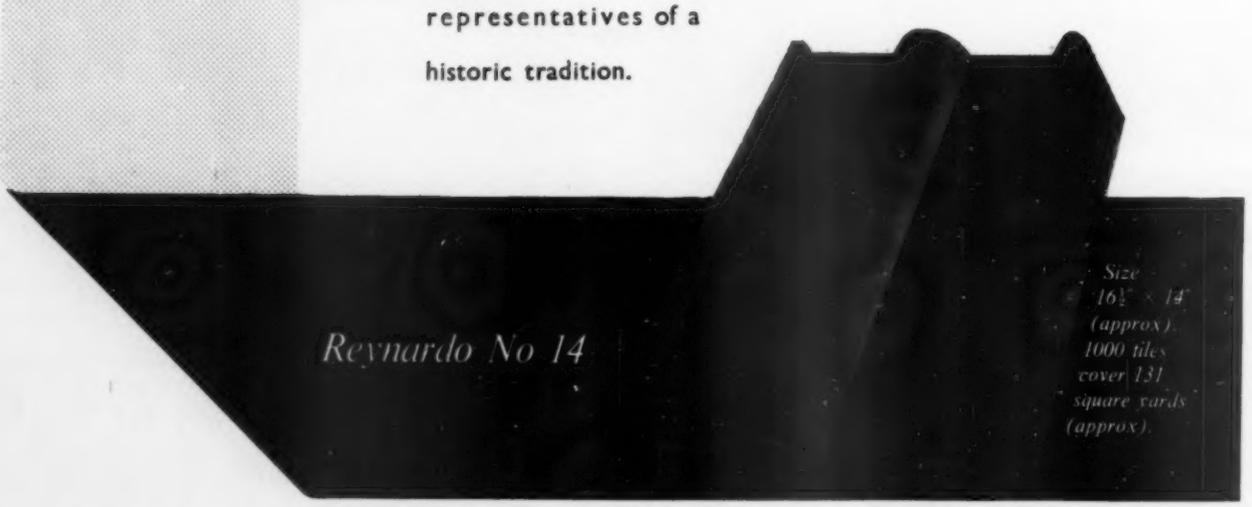

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BOOK REVIEWS

OBJECTIVE HISTORY

A HISTORY OF MODERN ARCHITECTURE. *By Jurgen Joedicke. The Architectural Press.* 45*s.*

The first history—not prehistory—of modern architecture, Bruno Zevi's, came out in 1950. Date and author are equally characteristic. By 1950, at least in the minds of historians, the 1930's had joined the early years of the century in becoming history. One could look back at the so-called International Style (a term coined by Alfred Barr in 1932) from a sufficient distance and also from a viewpoint no longer within its territory. The Unité was under construction and Frank Lloyd Wright had moved from Falling Waters to the Guggenheim Museum. Its model of 1942 is the subject of the last illustrations in Zevi's little monograph on Wright, which came out in 1947. He is the hero in the *Storia dell'architettura moderna* too, a book both history and electioneering. The axe Zevi has to grind is not a rational but an organic tool. So one must not expect endeavour towards Ranke's objectivity in his fascinating, highly intelligent, bulky and badly illustrated volume.

Dr. Joedicke curiously enough seems to have no axe to grind. His book, well illustrated and not bulky, appears to be really objective. He divides his material into The Age of the Pioneers (familiar stuff this for Anglo-American readers); individual chapters on The Three Masters (Gropius, Mies and Le Corbusier); a group of chapters on extension and development, including De Stijl; the change from formal to informal planning; Alvar Aalto; the final achievement of skeletal construction in Lever House and Mies's late skyscrapers; and the new spatial conceptions of Maillart, Torroja, Nervi and Candela. The last part is surveys of national contributions. This is the least even part, and England e.g. is represented by a number of buildings an English author would hardly have chosen. However, Roehampton, Bryn Mawr, the Hertfordshire Schools, the Festival Hall and Coventry Cathedral are also duly illustrated.

In fact the book, with a few such reservations, is remarkably international. A little German bias does no harm, as the contribution of Germany to the history of the twentieth-century style is indeed considerable and the most recent German jobs illustrated are once more up to the best standards outside Germany.

The only reservation which is concerned with a general rather than a particular matter is the very consequence of Dr. Joedicke's objectivity. Can one really see Candela, the Sydney Opera House and Niemeyer's design for a museum at Caracas as part of the same style as the Bauhaus and the Villa Savoye, or are we watching the emergence of a mid-twentieth-century style, fantastical, anti-cubic and often antirational? And, if so, can Twentieth Century One and Twentieth Century Two be treated as one, without a determined caesura? I don't think they can. **Nikolaus Pevsner**

INVERTED LEONARDO

MARCEL DUCHAMP. *By Robert Lebel. Trianon Press.* 4½ *gns.*

Among the 'documents photographiques' reproduced in Robert Lebel's book is a double portrait *à la* Picasso made in 1953. The profile suggests a Cartesian thinker or a Classicizing aesthete, the face of an Academician: the full face, grinning, suggests a joker who has just conceived a way of balancing a bucket of holy water on top of the pearly gates in time to catch the saints as they go marching in. In Duchamp's work the two aspects of the man are not so easily separable—the catalogue raisonné given by Lebel shows that the earliest surviving Duchamps are often cartoons with captions, and right through his work the titles of his pieces are (*a*) usually so long, and (*b*) so necessary to the works, that they still retain something of the caption quality—at least to the extent that they are nearly always puns, suggesting the kind of intellectual-visual pun that is the secret of most of his paintings, objects, machines.

But what, after that, is the status of his meticulously constructed mind-traps, the ready-made products wilfully elevated to the level of 'art'; the laboriously elaborated non-art creations like the Bride Stripped Bare, the optical illusions to be played on the gramophone, the preoccupation with chess? Is he a kind of inverted Leonardo (in some drawings the technique is identical, but the writing is right handed) for a perverse age, or is it all the projection of schizo's private 'other' world with only the clinical significance of a slip of the pen?

Lebel's book provides all the evidence, except the notes from the famous Green Box, but falls flat on interpretation. He is clearly no match for his subject matter in mental range and agility—for instance, he (or his translator) carefully signals every pun he recognizes, but fails to pick up such vital ones as 'Bagarre d'Austerlitz.' We still await the definitive Duchamp. **Q.S.C.**

BOOKS RECEIVED

ART TREASURES OF GERMANY. Edited by Bernard Lohze and Harald Busch. B. T. Batsford. 84*s.*
THE CONSTRUCTION OF BUILDINGS, VOL. I. By R. Barry. Crosby, Lockwood and Son. 18*s.*
APPLIED BUILDING CONSTRUCTION. By A. Medlycott. Chapman and Hall. 25*s.*
SPECIFICATION WRITING. By Arthur J. Willis. Crosby, Lockwood and Son. 9*s.* 6*d.*
PICTORIAL HISTORY OF HEREFORD CATHEDRAL. By the Very Rev. H. R. Burrows. Pitkin. 2*s.* 6*d.*
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OUR ARCHITECTURAL CONFUSION. By Louis Labeaume. Vantage Press. $3.00.
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THE DESIGN OF SHELLS. By Albin Chronowicz. Crosby, Lockwood and Son. 42*s.*
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THE SYNTHETIC VISION OF WALTER GROPIUS. By Gilvert Herbert. Witwatersrand University Press, Johannesburg. 19*s.* 6*d.*

MARGINALIA

THE LIGHTS OF GODFREY STREET

For reasons which might well provide a historian of taste with the subject of an elegant and amusing *feuilleton*, street lighting now seems established as one of the accepted grounds for that form of skirmishing over amenities that is rapidly adding a new dimension to local-government democracy. Not only have new lamp-posts provided old actors and young exhibitionists with useful publicity, but they have also provided some just causes on which the techniques of *Counterattack* have been extended and perfected.

A case in point is provided by the bracket lights in various parts of Chelsea, particularly in Godfrey Street. For many close-built urban areas, as the AR has frequently pointed out, lights bracketted from street-side buildings are preferable to free-standing posts. Equally, there are many areas where the existing lighting is inadequate for present traffic movement, and an improved service is a justifiable ambition for a borough engineer. But to put up ill-conceived brackets in quiet residential areas where traffic only dubiously required an increase in lighting levels, and where there is existing gas equipment in scale and in keeping with the townscape, and capable of modification, 1—all this requires the sort of action that only a special-interest local lobby can produce.

Whether the action of the Godfrey Street Residents' Association will

1, disputed street lamps in Chelsea—in spite of the fact that they are spending over £80 each on new standards elsewhere the Borough Council insist that the existing gas standards would be too expensive to convert, and are proposing instead, not only the bracket shown here, to which residents object, but have also put up some jury-rigged, wire braced brackets on corner sites.

lead to any worthwhile results remains to be seen—they are having to fight their way through the usual smoke-screen of references-back, inter-departmental contradictions (with the interesting addition of contradictions between the legislative and executive sides of Chelsea Borough Council), alternative designs of doubtful standing since the original has been ordered in bulk already, and the sneak erection of yet other designs (or non-designs) not mentioned in the original proposals. One looks forward with apprehension to the outcome of the battle, if only because Chelsea has some reputation to keep up in matters of taste and visual design.

COUNTRY-HOUSE TYPOLOGY

In the July, 1959, issue of the *Journal* of the Royal Society of Arts,* there

*5*s.* from R.S.A., John Adam Street, London, W.C.2.

appeared a document that deserves wider circulation among historians and students of architectural history than the RSA's modest vehicle can afford, since the reprinting therein of Sir John Summerson's three Cantor lectures on *The Classical Country House in Eighteenth-Century England*, introduces a new method into the study of eighteenth-century architecture. Work on that century, as he points out in his first lecture, has been dominated by the study of leading personalities, not of dominant building types (one might add that this is in marked contrast to the study of the succeeding century, which has been dominated by the study of types, such as railway stations, iron-framed factories, skyscrapers, etc.). 'Nobody, I believe, has attempted to estimate the number of country houses being built, the amount of money being spent on them, or their distribution throughout the kingdom—elementary desiderata, surely, if country-house building is to be considered historically, and essential if changes in architectural character are to be properly observed.'

Though this statistical and documentary approach may dismay those who have particular idyllic visions of the 'Century of Taste' to cherish, the results it produces are fascinating and do—in fact—support the superficial impressions that are likely to be gleaned by the plain blunt observer doing the 'Country House Circuit.' Thus the general, but unsupported, assumption of a sudden splurge of Palladian building activity on country estates is fully justified by the figures, which show fifty substantial houses put in hand between 1720 and 1724, against an average of twenty for any comparable five-year period between 1710 and 1760.

On this secure basis Sir John is soon deeply involved in the nature and progress of the Palladian Boom—including the problem of which came first, the Palladianism or the Boom—too deeply involved for short summary here. But as his story unfolds and works its way through the century, other themes arise that provoke thought. One is the emergence of the gentleman-architect, whom he shows not to have emerged *as a type* (Sir John's italics) until the middle of the century—of the 42 ascertainable architects of major houses before 1740, seventeen held office under the Crown at some time, sixteen were masons with contracting businesses, and only six genuine amateurs.

Again in his third and last lecture, Sir John tackles a problem that sticks out like a sore thumb—once you have noticed its existence: the emergence of the Villa as the dominant country house type of the middle and late eighteenth century. The reason why this conspicuous development is so little observed appears, on Sir John's showing, to be partly semantic—the word *villa* does not appear in its present sense of a particular kind of compact house until 1750 (Robert Morris) and 1752 (Horace Walpole), and it was not until 1793 that a description of the villa as a functional and social *type* was to appear (Charles Middleton). Somewhat in concordance with this, villas—though existing as a building-type from the Palladian Twenties onwards, and enjoying a 'revival' in the Fifties—do not finally emerge as the preferred vehicle for country house design until the early seventies, and then rapidly become also a vehicle for what Sir John calls 'the architect's vanity,' as the classical certainties dissolve into the stylistic extravagances of Romanticism.

PICCADILLY ENQUIRY

A collision, at the highest level, of commercial, architectural and legal interests in urban re-development in England has long been anticipated, even if the nature of a suitable *cause célèbre* could not be predicted. In spite of a long preliminary rumble of almost a year, few would have anticipated that the north side of Piccadilly Circus, currently a visual slum partly redeemed by some of the best electric advertising on this side of the Atlantic, would be the point where the storm would finally burst. Yet it was a proposal by a constellation of commercial parties—Island (Piccadilly) Development Ltd., City Centre Properties Ltd. and the Legal and General Assurance Society—to erect a tall building on what is known as the Monico site, the largest block on the north of the Circus, to the designs of Cotton, Ballard and Blow, that finally stirred public opinion to such an outburst that the Minister of Housing and Local Government called in the scheme in accordance with his powers under the Act of 1947, and instituted a Public Enquiry.

As a result, most of the leading figures in British town-planning thought and architectural theory were called to give evidence—nearly all on the opposing side—and any number of current theories were subjected to the full and—in many cases—pointless test of microscopic legal cross-examination. One of the reasons why so much of the cross-examination was pointless was the person to whom it was addressed—forensic rhetoric and the scoring of debater's points might possibly sway a jury of twelve good (inexpert) men and true, but not a Ministry inspector with a BSc, AMICE, ARIBA and MTPI after his name and a first-class book on traffic problems to his credit (*Mixed Blessing*, reviewed in AR, October, 1958).

Indeed, the Inspector, Colin Buchanan, emerged early as one of the heroes of the enquiry, patiently trying to winkle out facts—especially in attempting to establish who was ultimately responsible for the design of the building as presented to the enquiry. The outcome was something of a dusty answer, but a revealing one, in that it confirmed what had long been suspected. No one person designed it—or, at any rate, no-one whom the developers were prepared to call in evidence. The design, it appeared, 'just growed' (to employ the phrase that was inevitably used by learned counsel) out of suggestions and counter-suggestions made by the developers and the London County Council as planning authority. A reading of the evidence gives a fair view of the quandary in which such a local authority finds itself in trying to assure that development does, in fact, take place but, at the same time, does not fall below certain minimum aesthetic and town-planning standards. The only pity is that the LCC failed to make a more positive case for itself, while succeeding, only too well, in giving the impression that it was prepared to jettison the idea of comprehensive re-development, when hard pressed.

Opposition to the proposed building was marshalled under the legal umbrella of the Civic Trust—so well marshalled, and so unanimous that counsel for the developers endeavoured to prove the existence of an organized conspiracy against the scheme and a 'smear campaign' against the architects, whose precise position vis-à-vis the development company appeared to give grounds for further elucidation, by the Architects' Registration Council of the proper relationship between architects and developers.

Nevertheless, the unanimity of opposition was remarkable, and represents one of the biggest stirrings of architectural conscience in Britain since the bitter campaigns of the Thirties. Not only could the Civic Trust call on witnesses as eminent as Sir William Holford, Thomas Sharp, Robert Furneaux Jordan, J. M. Richards, David Aberdeen, Richard Sheppard, Denys Lasdun, Miss Jane Drew and H. T. Cadbury Brown, but the latter could also produce a letter of protest signed by fifty-two architects whose eminence was not questioned by the developers' counsel. In addition, a distinguished peer, the Royal College Students' 'Anti-Ugly Action' Society, and others were also available in evidence.

The general tenour of all objections will hardly come as a surprise to readers of Kenneth Browne's feature on Piccadilly Circus in the June, 1959, AR—that comprehensive re-development was needed to provide proper disentanglement of pedestrian and vehicle circulation, and to maintain and enhance the character of the Circus (including the illuminated advertising) as a place of popular resort and pleasure. The Minister's final decision is awaited with the most acute interest.

CORRESPONDENCE

BRICK CLIFFS OF DOVER

To the Editors.

SIRS,—I should like to draw your attention to an article in *The Dover Express and East Kent News*, dated November 20, 1959, describing the demolition of South Front Barracks on the Western Heights at Dover. I referred to these works in my article *Brick Cliffs of Dover* (AR, March, 1959) but the point I wish to raise here concerns the justifications offered for demolishing them.

2, *earth and stones cascading from the roof of the South Front Barracks in course of demolition (from the* Dover Express and East Kent News .

The South Front Barracks is just one hundred years old. It may seem a rather 'precious' opinion to adopt, but I feel that this building, together with the remainder of the Napoleonic Fortifications at Dover, represent a unique historical monument in this country to a particularly interesting period of military history. The fact that this period occurred barely a century ago, has presumably precluded this building from being 'Listed' by the Ministry, for I am sure that if the South Front Barracks had somehow managed to survive for another hundred years, its true value, and that of the Fortifications, as an example of a particular form of military engineering, would have been recognized. In the United States, buildings of a similar nature are carefully preserved as museums, and their surrounding moats transformed into grassed walks. The South Front Barracks is moreover an excellent example of the Functional Tradition, the thick brick cross walls and barrel vaults being clearly expressed on the façades to form a design reminiscent of some Florentine palazzo.

The War Department's decision, no doubt arrived at purely on economical grounds, is to be deplored, for the basic structure of this building, whilst possibly of no practical use, is still quite sound, and could have been left intact to form, together

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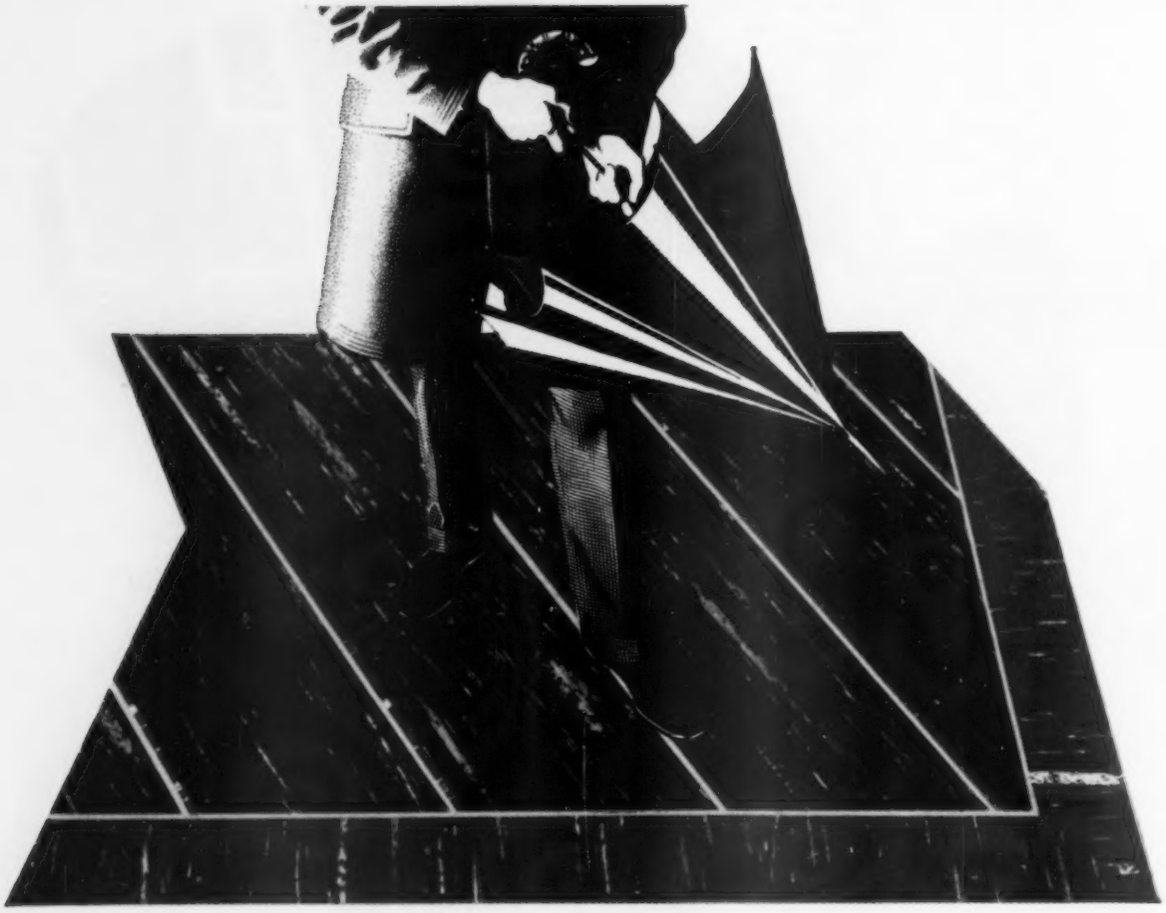

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with the miles of brick-faced moats, an awe-inspiring monument of considerable and peculiar grandeur, fully comparable with the Norman castle nearby.

It is to be hoped that the War Department's decision in this case will not form a precedent for the remainder of the Fortifications.

Yours, etc.,

JOHN PEVERLEY.

London, W.1.

HEADSTONE ART

To the Editors.

SIRS,—'Churchyard outrage' such as that at Scarborough, AR, November, 1959, seems in danger of becoming the rule rather than the exception—and in the process many sepulchral monuments of excellent design are being destroyed without record. With the inevitable factors of weathering and lack of upkeep added to such a threat, this heritage of carving may well become extinct within the next century, together with the craftsmen responsible.

As some stones weather worse than others, certain localities are badly affected. To quote one case in particular. Many of the Forest of Dean headstones suffer from surface shaling and are illegible, yet the better preserved (worked by such masons as the Laughtons, Hobday, Wheeler and Ballard in the vicinity of Evesham) are among the finest work of the early nineteenth century.

The neurosis for tidying churchyards seems to have developed from the initial difficulty of finding and paying for labour to keep down churchyard grass—in combination with a contemporary 'fad' for the lawn cemetery. By a process of illogic it now appears more correct to many local authorities to achieve an arid grass plain by the abolition of the older monuments—rather than to record, preserve and maintain them as part of the church and village social history.

With regard to Bury St. Edmunds (AR, October, 1959) it was a suggestion of mine that on the clearance of the Abbey Garth, the tombs of the Steggles and De Carle families could be retained out of respect for these craftsmen, who had made a visible contribution to the town's fabric in past days. The latter family, for instance, as statuaries, produced admirable tablets and gravestones throughout East Anglia, having workshops at Norwich, Bury St. Edmunds, Ipswich and Ballingdon (near Sudbury), and as builders worked on several country houses designed by Sir John Soane; one of their account books describing the difficulty they had in setting-up the portico at Ickworth House, and their relations with other craftsmen working on the building. The invidious status of gravestones in churchyard law makes their upkeep reliant on goodwill, rather than duty. Only 'informed opinion' by registering active complaint when each particular case of destruction is mooted, can prevent it becoming a 'fait accompli.' I have been compiling an illustrated biographical index of the older gravestone-cutters for several years, and signed monuments (less rare than is commonly supposed) are invaluable items in resurrecting such past craftsmen. I should welcome any factual descriptions of churchyard monuments known to readers to assist this task.

Yours, etc.,

FREDERICK BURGESS.

Reigate, Surrey.

OBJECT ON VIEW

To the Editors.

SIRS,—May a museum curator take issue with Mr. Michael Brawne's article 'Object on View' (AR, November, 1959)? The author is not the first of his profession to imagine a museum as a glorified art gallery.

The body of curatorial opinion would, I am sure, endorse that while the utmost taste is required in both activities, the function of a museum is primarily the conservation of knowledge, and arising out of this its interpretation to the visitor. Hence the first need of a museum is space for the conservation and housing of its accessions; birds must be stuffed before they can be exhibited, pottery repaired, and metalwork cleaned.

It is not sufficient merely to produce a dramatic display. The general visitor understands little or nothing from a Norman carving clamped on a wall. It is the museum's task to present such a specimen as part of the cultural heritage of the period, not just with a label but by getting the atmosphere so lamentably lacking on those sterile walls of your illustrations where even simple labels are conspicuous by their absence.

In England, where we do not, as in most European museums, impose a charge which deters all but the connoisseur, protection against dirty hands and dirty air is a constant problem which cannot be set aside in the interests of idealism. We have not here a legacy of whitewashed palaces, but one of monumental edifices which claim in their own right a place in our history and are in any case unlikely to be rebuilt for many years to come.

And before embarking on 'cultural centres' there are one or two little matters of staffing, finance and control which need serious thought from the curator's point of view.

Yours, etc.,

D. T-D. CLARKE,

Keeper of Antiquities, City of Leicester Museum and Art Gallery.

Mr. Brawne replies—

Mr. Clarke is of course right in saying that a museum must look after its accessions, but that ought never to become its primary purpose. A motor-car exists to provide transportation, not to be kept in mechanical repair, however necessary—or intriguing—an occupation that may be. Nor do I disagree that objects should be related to their cultural background; I would only again question whether the museum is necessarily the best means in a period when other media are readily available, particularly since such elaborate associations may nullify the museum's one trump card: immediacy.

I have no grounds for believing that the ticket-paying tourists of the Italian palazzos have cleaner hands than the freely admitted citizens of Leicester, nor that cultural centres are premature. Mr. Clarke may find that if museums became more relevant to the community, problems of staffing, finance and control might also appear easier.

COMMONWEALTH ISSUE

To the Editors.

SIRS,—The attention of the Central Council of the Institute of South African Architects, the governing body of the architectural profession in the Union of South Africa, has been drawn to the October, 1959, Commonwealth issue of THE ARCHITECTURAL REVIEW.

I am directed to inform you that grave exception is taken:

(i) To the political criticisms appearing on pages 174 and 176 in the article headed 'South Africa' (unidentified as to its authorship);

(ii) To the unfairness to Mr. W. Duncan Howie, a leading member of this Institute, who, because of the editorial indebtedness expressed at the foot of your Contents page, is very wrongfully and painfully associated with the political criticisms referred to.

I am directed also to ask you, as a matter of professional honour, to notify your readers of the factual position so as to remove from their minds, the extremely serious misapprehension that has been created.

Yours, etc.,

J. S. LEWIS,

Registrar, Institute of South African Architects.

Johannesburg.

To the Editors.

SIRS,—We greatly appreciate the reference to the National Building Code of Canada in the article describing building practice in Canada which appears on pages 218 and 219 of your October issue. Unfortunately the article's description of the Code as having been 'adopted in only limited areas' is incorrect, since the National Building Code is now used in one form or another as the building regulations for more than half the urban population of this country, and its use continues steadily to increase.

We are sure you would wish this reference to be corrected.

Yours, etc.,

ROBERT F. LEGGET,

Chairman, Associate Committee on the National Building Code, National Research Council of Canada.

Ottawa.

INTELLIGENCE

The firm of Grounds, Romberg and Boyd, of Melbourne, Australia, has been chosen by the Pacific Chapter of the American Institute of Architects to receive the second Pan-Pacific Architectural Citation for 'work of exceptional merit in the Pacific Area.' This office was responsible for the Academy of Science building in Canberra and other buildings in the Commonwealth issue of the AR (October, 1959), and Robin Boyd has contributed several articles to the AR.

The Queen has approved the award of the Gold Medal of the Royal Institute of British Architects for 1960 to the distinguished Italian architect-engineer Pier Luigi Nervi.

The International Union of Architects has given its approval to the conditions published for an international competition for the development of the city of Tunis, including the design of a palace for the President of the Tunisian Republic. The first prize is 5,000 dinars, and the closing date is October, 1960.

CORRECTIONS

The following corrections should be made in the texts of the special issue of the AR *Commonwealth* I (October, 1959):

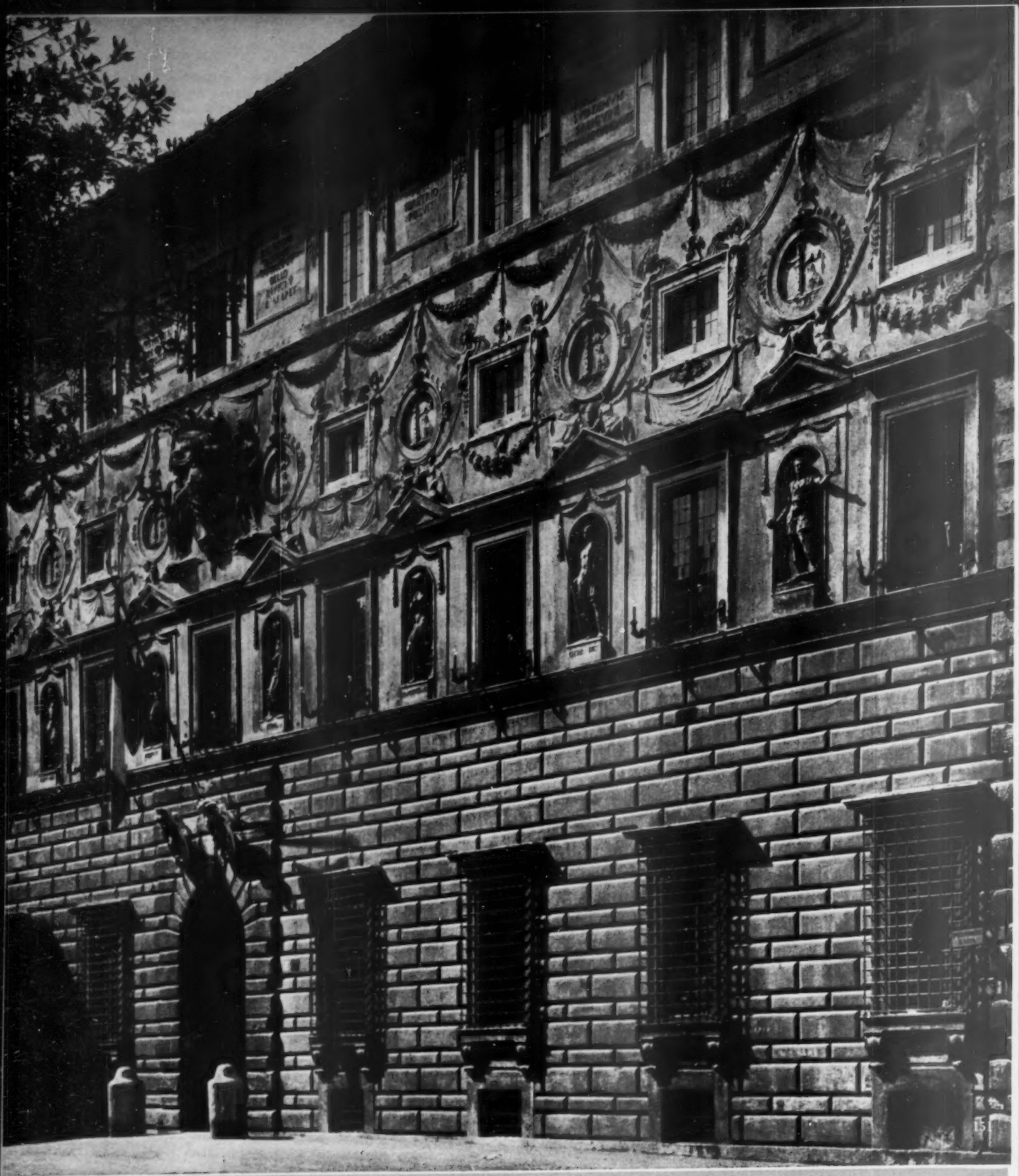
P. 151, the reference to John 'Fussler' should read 'John Fassler.'

P. 159, credit for the Belly River Bridge, Alberta, should go to the Bridge Branch, Department of Highways, Government of the Province of Alberta, and not to the Toronto City Highways Department.

P. 175, the view shown in illustration 3 is of the Cape Peninsula, not of Cape Province.

P. 176, illustration 6 shows the Groote Kerk in Cape Town, not Pretoria as stated.

P. 187, Cape Town Medical Centre should be credited to Tribelhorn and Louw, and N. F. Lubynski.



The façade of the Palazzo Spada in Rome—Mannerism foreshadowing Baroque exuberance—as it appears in one of the plates in Georgina Masson's *Italian Villas and Palaces*, discussed by Dr. Peter Murray in the article opposite.

Peter Murray

CAMPAGNA E CITTÀ

Petrarch, it is said, was the first man in modern times to climb a mountain for the sake of the view. This event took place about 1340, but it would not have seemed anything to make a fuss about some thirteen centuries earlier, to judge from the descriptions in the Letters of Pliny the Younger, who had a highly sophisticated taste in villa design and a very keen eye for the possibilities of a site. At about the time when Petrarch was climbing his mountain the Italians in general were becoming more aware of their classical heritage and were also working their way back to a conscious and sophisticated pleasure in domestic architecture, resulting in the villas and palaces that Georgina Masson describes in her recent splendid book* of nearly two hundred architectural photographs. 'Villas and Palaces'—the very words are Italian, and it is no coincidence that the ideas as well as the things spread out from Italy in the late fifteenth and sixteenth centuries until the Baroque palace and villa had conquered the whole of Europe. Villas had been built all over the Roman Empire, but they were forgotten and buried in the Dark Ages and the ideas had to be rediscovered and reimposed.

The Italian aristocracy never managed to attain to any of the feudal powers of their Northern cousins and a predominantly mercantile society naturally developed a highly organized urban life, with most of the political power in the hands of the traders. Florence, for example, was virtually ruled by the heads of the seven Greater Guilds, to whom the *Ordinamenti di Giustizia* of 1293 gave political power. The ruling families were naturally the principal members of the Arti Maggiori and their intermarriages equally naturally produced a fairly large number of very well-off families, all engaged in commerce and therefore settled in the town, where they built semi-fortified public buildings, such as the

* *Italian Villas and Palaces*. By Georgina Masson. London: Thames and Hudson, 1959. Price, 84s.

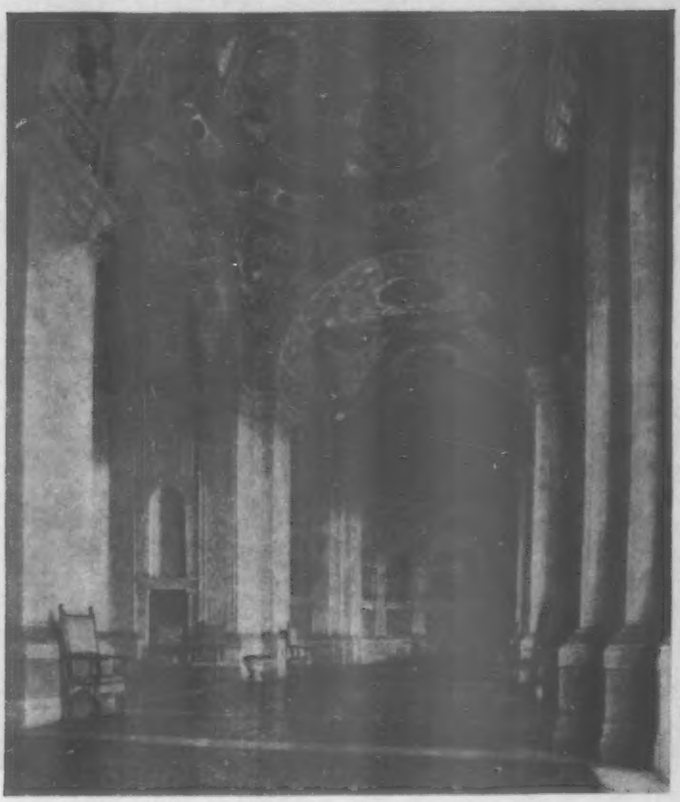
Bargello or those Palazzi del Comune still to be found in every Italian town, and also semi-fortified palaces for themselves. The fortification was made necessary by the not infrequent rioting of the *populo minuto*, denied any other form of political self-expression, and the typical palace was soon evolved to meet some fairly specific needs shared by a relatively large number of people.

The classical *insula* block was adapted, since the value of land made it necessary to build high, opening on to a central court for light and air, and the enclosed court meant that the whole building could be barred against rioters, for days on end if necessary. Since all the owners carried on some form of business the entire ground floor was given over to it, but the floor above was used for the living quarters of the family. It was insulated from the heat and noise of the street by the ground floor below and by one (or more often two) storeys above, hence the name *piano nobile*. The less desirable upper storeys were occupied by the children or other relatives of the owner, the servants and the apprentices in the business, and sometimes there was an open loggia on the top floor, shaded by the strongly projecting eaves. This is the type of Florentine palace, established in the fourteenth century in such examples as the Davanzati, and carried to great heights in the fifteenth century in the Medici, Ruccellai, Pitti and Strozzi Palaces. This essentially Florentine type was the first to be established and was modified in such masterpieces as the palace unit by Federigo da Montefeltro at Urbino or even the Palazzo della Cancelleria in Rome, until it was more or less superseded by the High Renaissance type developed in Rome in the early years of the sixteenth century, first by Bramante and then by his pupil Raphael and his pupil Giulio Romano. After the sack of 1527 the Bramantesque ideal was carried all over Italy in many modified forms, even as far as Venice where we can see the struggle to marry the traditional form evolved to meet the special needs of building over water, with the new desire for order and symmetry even at the expense of function (a case in point is what happened to the windows of the Venetian *gran salone*). By the seventeenth century a fairly uniform Baroque palace type had been evolved—compare such relative extremes as the Palazzo Barberini in Rome and the Palazzo Rezzonico in Venice—and this lasted until the politico-architectural effect of Versailles made its impact and made it psychologically necessary for the bankrupt Kingdom of the Two Sicilies to indulge in the great barracks of the Royal Palace at Caserta.

Courtyard of the Palazzo Spada. This and the photograph opposite are reduced from plates in Georgina Masson's Italian Villas and Palaces.

In a country in which sophisticated—and noisy—town life was so early developed it is not surprising that Petrarch should have climbed his mountain to enjoy the solitude and the view, and the idea of a villa as a country house to retire to from the cares of the family business in town, for learned and pleasant conversation, and as a refuge from that concomitant of town life the plague, very soon found favour. It had other recommendations too, for it is an idea traceable back to Roman times and was therefore fashionably antique; even better, there was no reason why some of the family capital should not be sunk into it to make it self-supporting and able to provide the town house with wine, olives and corn. The Villa Urbana described by Pliny in his two letters on his own villas at Tuscum and Laurentum is of this type, for much of the description is devoted to the farm quarters and the needs of the animals. Alberti gave an exposition of this sort of building, based on Pliny and Vitruvius, but the Renaissance villa was rather more luxurious—or more in keeping with the passages in Pliny describing separate suites of rooms for summer and winter, or to match the mood of the owner—and is best exemplified in palatial buildings like the Te at Mantua, not meant to be lived in but only places to spend a hot day. The Villa Giulia in Rome is another example of this kind of superb country palace; but this is not the Italian villa from which the English country house is descended, and of which many thousands still exist in Italy. This villa was really the creation of Palladio and his followers in the Veneto, re-creating practical farms for practical Venetians in what he conceived to be the antique manner, complete with temple front and the full panoply of the Orders.

As one might expect, the great Princes of the Church built themselves superb villas in the country



Great loggia of the Villa Madama, Rome

round Rome, at Tivoli or Frascati, and perhaps the grandest of them all was the villa at Caprarola, near Viterbo, built mostly by Vignola for the wealthy and powerful Farnese family, who already owned the largest and grandest of the Roman Palaces, on which Michelangelo himself worked.

Miss Masson has produced a book on this subject that will give great pleasure to everyone who loves Italy, or architecture, or both. She has taken some of the finest architectural photographs I have ever seen, for it is clear that she knows what to look for as well as how to make it come out on the film with all the angles and perpendiculars miraculously undistorted (she uses a 25-year-old Rolleiflex). She has chosen 193 of these photographs and her publishers have reproduced them very well in photogravure and on a generous scale. Her book is divided into five parts, preceded by a brief introduction, on Liguria and Piedmont; Lombardy; Venetia; Emilia, the Marche, Tuscany; Lazio and the Kingdom of Naples, followed by a bibliography and index. Each section has a map, a very brief introduction and then short but informative and up-to-date notes on the plates (the notes are particularly good on the present state of the buildings). The text pages are kept separate from the plates—which have no captions—for economic reasons, since this allows one set of plates to be printed for any number of languages; it does not, however, explain or justify the use of different colours of paper for each of the text sections.

The photographs themselves are so good that one has no wish to quarrel with the text, but one cannot help feeling that such a book as this ought to have a large number of plans (preferably one of every building) and that the buildings themselves ought to be illustrated in full as well as in detail—for example, Urbino has five plates but not one is of the exterior or of the Court, the supreme glory of the Palace; while the Villa Giulia, one of the most important and influential of all Italian villas, is represented by three plates but in only one do we even catch a glimpse of the villa itself*. Pienza is not represented at all and the Villa Imperiale at Pesaro has only two plates of details of the wall-paintings, which would be excusable in the case of Maser. In other cases there are too many important buildings crammed on to one page—eight photographs of the Palazzi Quaratesi, Antinori, Strozzi, Medici and Ruccellai are given only two pages—while beautiful but insignificant details like the peacocks on p. 20 get a whole page to themselves. The juxtaposition of names of the Florentine palaces given above leads to my final criticism, for they are arranged in that order without any regard for chronology and the arrangement of the regions themselves seems equally arbitrary, except in the sense of working down the map. Perhaps Miss Masson took many thousands of photographs and then selected these as the best of them; if so, she is to be congratulated on her skill and sensibility, but the art historian cannot help waiting for the day when she is commissioned by an enterprising publisher to take unlimited photographs for a book on Italian architecture with a text and notes arranged on strictly historical principles.

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* Miss Masson's note on the Villa Giulia by a slip ascribes Vignola's share to Ammanati and vice versa.

1

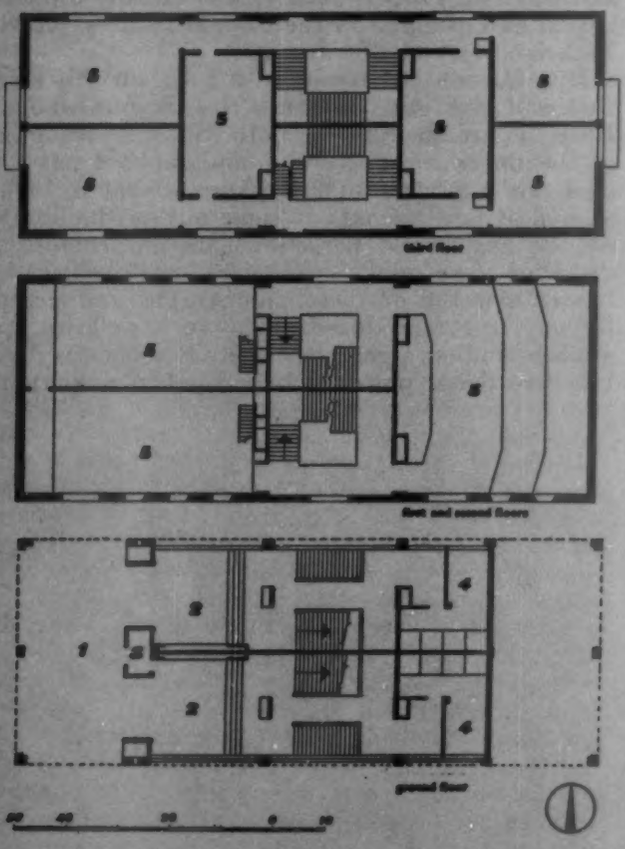
UNIVERSITY LECTURE-HALLS, CAMBRIDGE

Architects | **SIR HUGH CASSON, NEVILLE CONDER AND PARTNERS**

This is the first major building on the Sidgwick Avenue site, following the development plan prepared by the same architects in 1952. The whole site is shown in the air-view, 1 above, taken from across Sidgwick Avenue. On the near side of the Avenue is Newnham College with (bottom left-hand corner of the picture) the new principal's house by Louis Osman (AR, February, 1959). At the left-hand edge of the picture is Selwyn College, and at the top edge the base of the University Library.

Alongside the lecture-halls, the second major building, the U-shaped Faculty and Library building, can be seen already under construction. Between this and Selwyn College is the site of the Politics and Economics building, to begin this year and previewed last month.

The completed lecture-hall block will be the tallest on the site. Although at present it is fully visible from all sides, in a few years' time other buildings will be seen against it and will interrupt some of the present views.



2, from the south-east; 3, from Sidgwick Avenue (south-west view), with the scaffolding of the Faculty and Library building, now under construction, on the left.

The development plan presupposed that the higher part of a building on this site would be seen over and beyond other buildings but that the lower part would eventually only be seen obliquely from the south-west or at close quarters from the busy cycle parks around its base. The skyline is therefore important from all directions but the surface modelling of the mass has been considered particularly in relation to close oblique views. The building is deliberately massive and, in its main wall areas, rather neutral and tough in character so that it will act as a foil to other buildings—notably Little Hall, for which it will serve as background, and the raised Faculty Building, which is contained by this block and the future building for the Faculty of Economics and Politics.

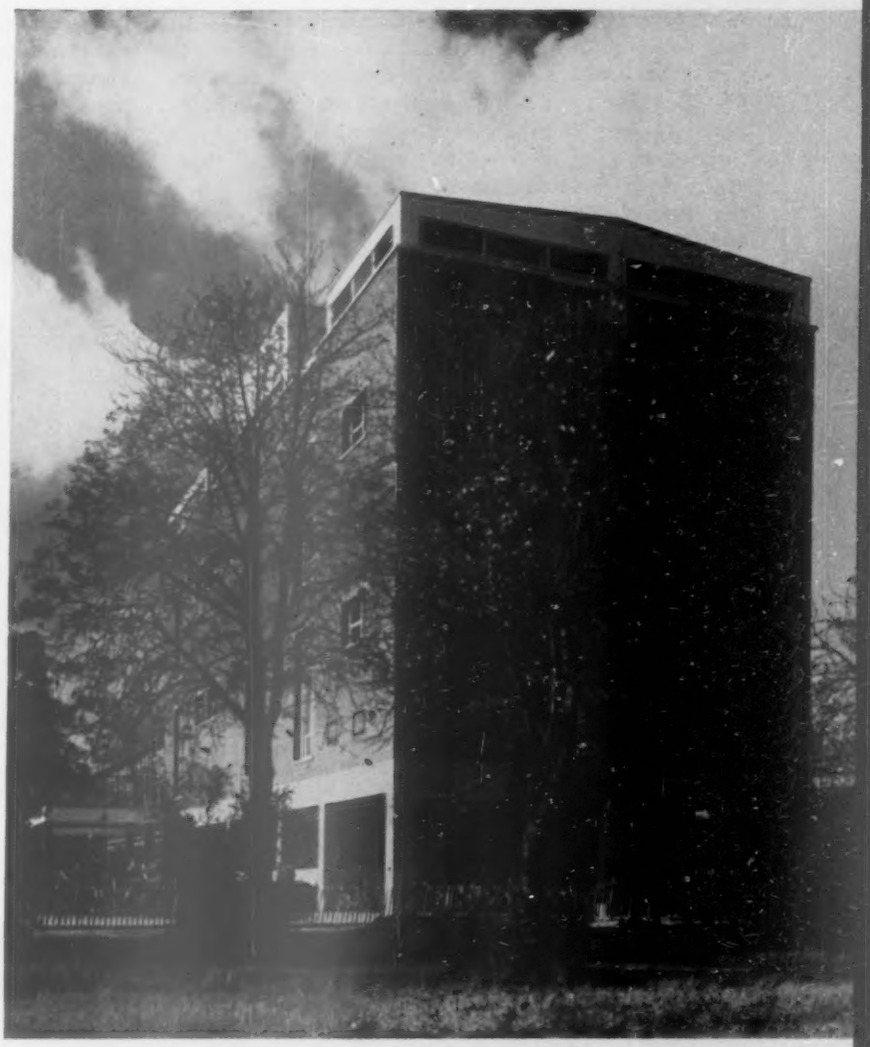
The total accommodation required in the lecture-hall building was two halls each seating 150 people, two each seating 100, two each seating 50 and four each seating 25; also cloakroom and lavatory accommodation for 900 (this has been placed in the basement), together with stores and plantroom that also serve an adjacent lecture-hall (Little Hall) to be built in the near future.

The lecture-halls are approached by two main staircases. These, although placed together, are separated by a fireproof wall and form alternative means of escape. The plan is therefore conceived as two separately entered self-contained "buildings" side by side with means of access from one to the other in case of fire. No staircases are required specifically and only for escape, and all are fully used for normal circulation at peak periods. There are virtually no corridors.

As the building stands at the point where students converge before making their way along covered ways to other points of the site, the lecture halls are above ground floor level and the general noise and bustle. The ground floor accommodates entrance halls and cloakrooms, and provides covered external spaces for assembly at one end and bicycles at the other. Balconies are provided in the 100-seat halls in order to allow them to be used for smaller audiences without any sense of poor attendance. The portico, built as an independent structure at the south-west corner, is this building's contribution to a covered way system that will eventually link it to the other lecture halls.

The basement is untanked and bears on clay at approximately 12ft. below ground level. The floor is lined with no-fines concrete and the walls with insulating concrete blocks kept 3in. clear of the structure. This allows any water that may penetrate the concrete to drain away to an internal sump. The first floor is supported on reinforced concrete columns and edge beam and a concrete spine wall and staircase enclosure. Above the ground floor the external walls are of 18in. load-bearing brickwork. The floors are solid reinforced concrete, dense materials having been chosen to eliminate noise transmission. The roof structure is of steel joists with timber purlins and boarding.

The ground floor columns and beams are in exposed bush-hammered reinforced concrete with a Penlee



2

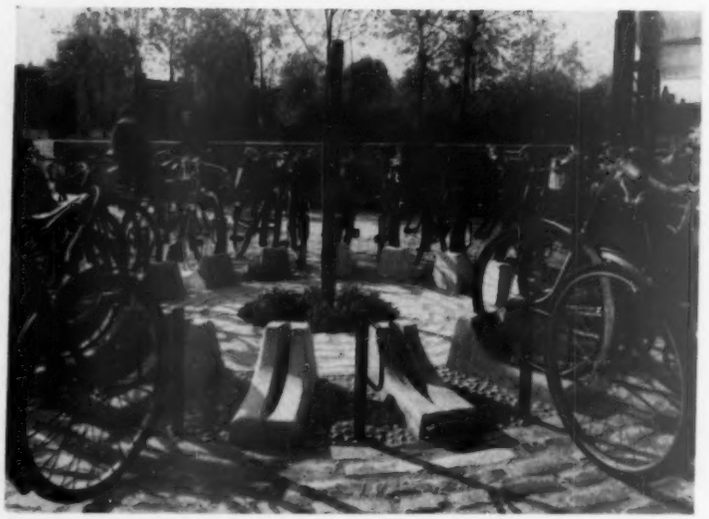
3

Basalt aggregate. The bricks are Sussex stocks with grey pointing. The tank and plant room and the upper part of the building are rendered with white mineralite. Windows are arranged to provide a concentration of light at the lecturer's end. Small windows are situated at low level in the rooms to give a sense of release without offering distractions to compete with the lecturer. The roof covering is aluminium. In the lecture halls the floors are of rubber, the ceilings of grooved acoustic softboard and the walls of plaster, with acoustic tiles inserted in random patterns. The floors in the entrance hall are of York stone. The fixed lecture-hall seating was designed by the architects in association with T. Lupton. The University required unupholstered simple bench seating with desks wide enough for examinations. The loose furniture was provided by the university.

Generally the heating is by means of floor panel coils using low pressure hot water provided by a new basement boiler house at the farther end of the site. The building is naturally ventilated, but the larger rooms are also provided with artificial ventilation at the control of the lecturer. Air warming and purifying equipment is situated in the roof and extract is direct to the open air by means of fans within the thickness of the external walls. Lighting is generally tungsten.

The roads and paving included in this contract are all part of the general development programme. The paving is artificial York stone, the steps real Portland stone. The bicycle park immediately in front of the building is surfaced with radiating circles of granite setts around small trees. The sites of two future lecture-halls adjacent to this building have been bounded with dwarf retaining walls, filled with surplus top soil, and planted with quick growing willows to act as a foil until the halls are eventually built.

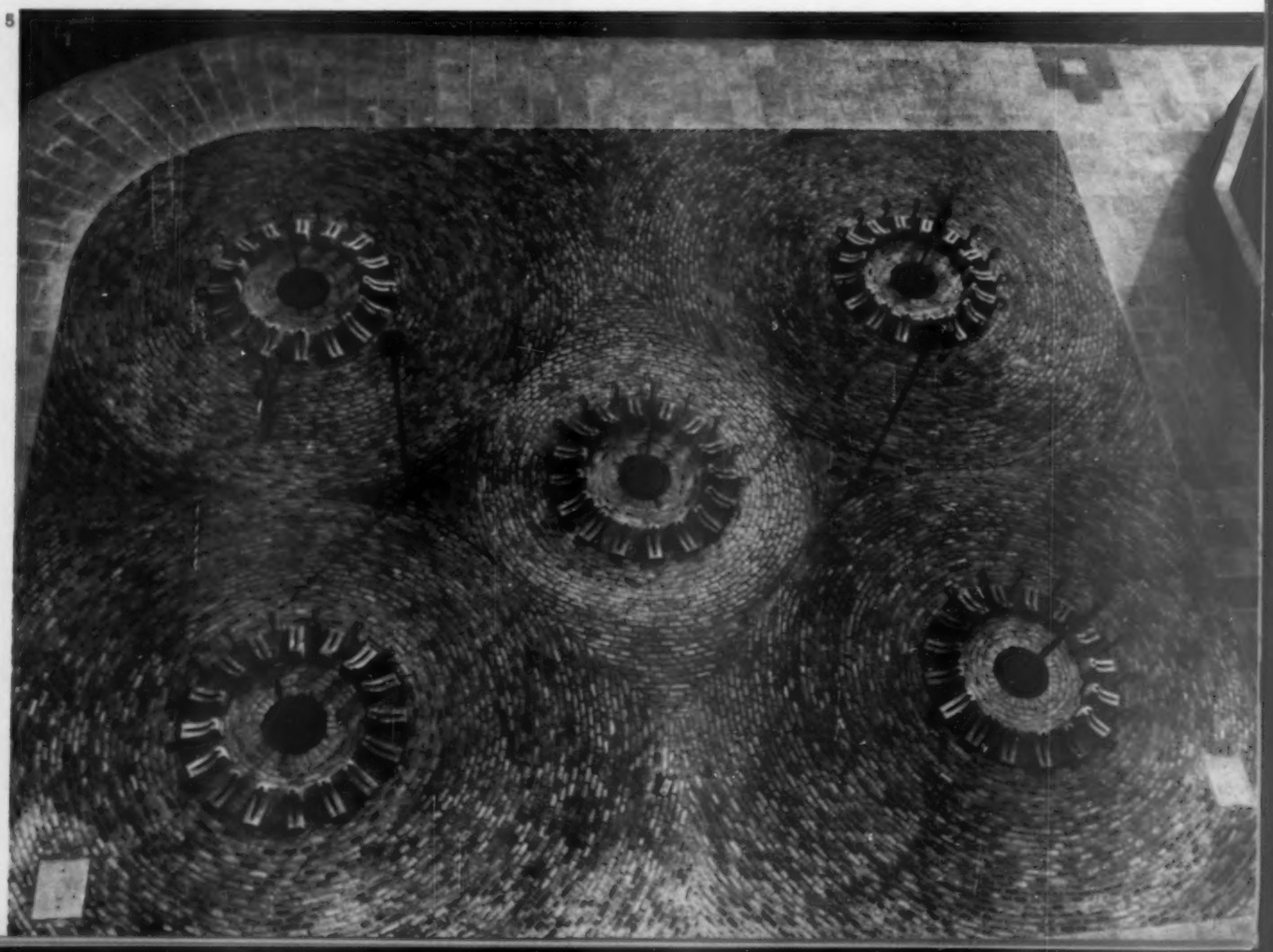
UNIVERSITY LECTURE-HALLS, CAMBRIDGE



4

4, bicycles parked in the forecourt. 5, looking down on the group of five bicycle-stands of which one appears in 4. Each has a tree in the centre. The paving is granite setts.

5



Below, the way in, step by step: 6, looking into the portico (part of a future covered-way system); 7, beneath the portico, showing the separate entrances to the two halves of the building; 8, the southern entrance from beneath the portico; 9, from just inside the same entrance.

10, looking out from the entrance-hall windows showing the boarded soffit of the portico. The grille over the heating tubes is of bronze.

11, close-up of main entrance door handles. They are of afromosia on a stainless steel core. The doors themselves are aluminium framed.

6

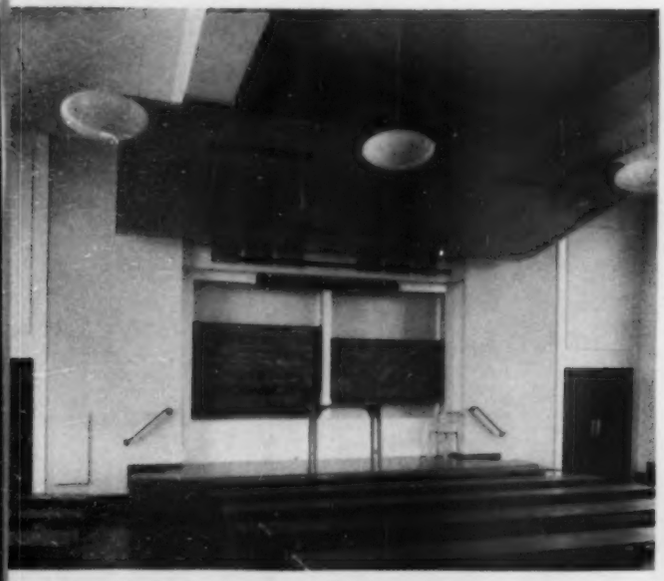
7

8

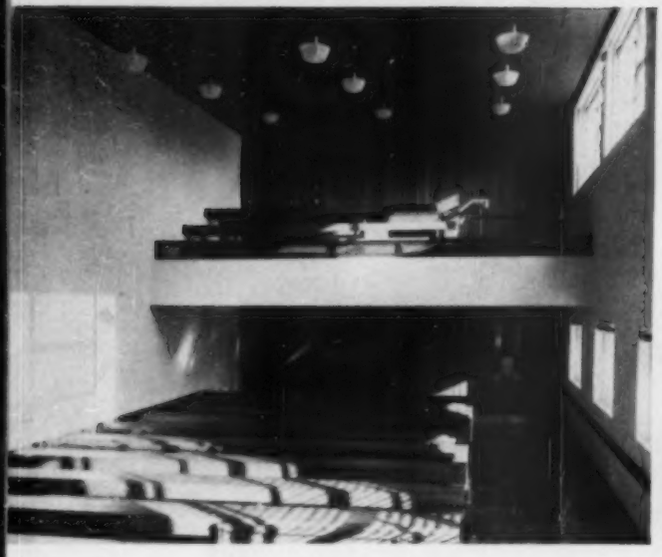
9

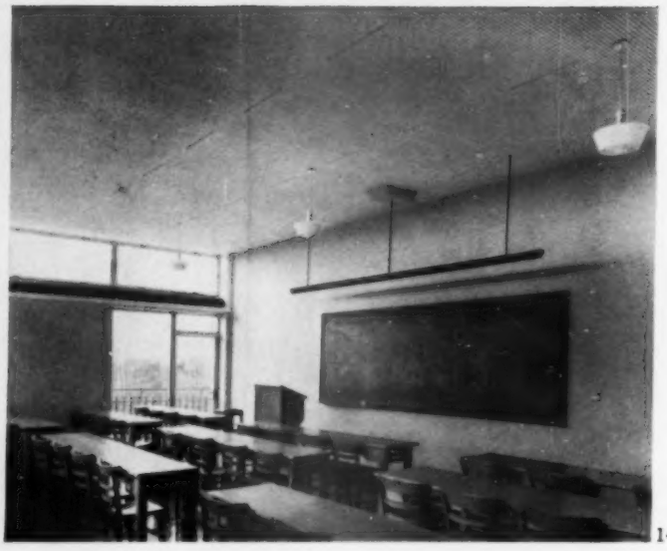
10

11



12, 13





14, 15

UNIVERSITY LECTURE-HALLS, CAMBRIDGE

Four typical interiors.

12, lecture-hall to seat 150, looking towards the platform. The fixed bench seating is afromosia, the sounding-board veneered lime and the doors veneered afromosia.

13, lecture-hall to seat 100, also looking towards the platform, showing also the acoustic tiling on the walls. Materials are as above.

14, the same lecture-hall from the platform showing gallery. The rear wall, faced with Danish-pattern acoustic panelling in afromosia, incorporates ducting, air-inlets, cleaners' cupboards, etc.

15, one of the small lecture-rooms (seating 50) on the top floor. The furniture in this case was provided by the university.

1960 STOCKTAKING 1

Reyner Banham, in taking stock of the impact of ***tradition*** *and* ***technology*** *on architecture today, finds it necessary to re-define these terms. For his purposes both words are used in a specialized sense.* ***Tradition*** *means, not monumental Queen Anne, but the stock of general knowledge (including general scientific knowledge) which specialists assume as the ground of present practice and future progress.* ***Technology*** *represents its converse, the method of exploring, by means of the instrument of science,* ***a potential*** *which may at any moment make nonsense of all existing general knowledge, and so of the ideas founded on it, even 'basic' ideas like* ***house, city, building.*** *Philosophically it could be argued that all ideas, traditional or otherwise, are contemporaneous, since they have to be invented anew for each individual, but the practical issue is not thereby invalidated. For the first time in history, the world of* ***what is*** *is suddenly torn by the discovery that* ***what could be,*** *is no longer dependent on* ***what was.***

tradition

Architecture, as the professional activity of a body of men, can only be defined in terms of its professional history—architects are recognized as architects by their performance of specific roles that have been assigned to the profession in previous generations. Any significant attempt to extend or alter those roles will be dismissed, by most of the profession and even more of the public, as something other than the business of architects as architects. As James Cubitt wrote recently 'Designing roundabouts or doorknobs is not architecture. The idea that it is arises from a misconception of the purposes of the Bauhaus, primarily a school of industrial design. Architecture is, and always will be concerned, roughly speaking, with "carefully balancing horizontal things on top of vertical things".'

technology

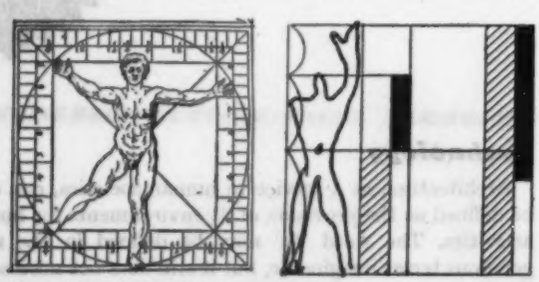
Architecture, as a service to human societies, can only be defined as the provision of fit environments for human activities. The word 'fit' may be defined in the most generous terms imaginable, but it still does not necessarily imply the erection of buildings. Environments may be made fit for human beings by any number of means. A disease-ridden swamp may be rendered fit by inoculating all those who visit it against infection, a bathing beach may be rendered fit by removing land-mines left over from the last war, a natural amphitheatre may be rendered fit for drama by installing lights and a public address system, a snowy landscape may be rendered fit by means of a ski-suit, gloves, boots and a balaclava. Architecture, indeed, began with the first furs worn by our earliest ancestors, or with the discovery of fire—it shows a

tradition

In spite of the much-debated 'revolution' in architecture in our time, the roles of architects have not been significantly extended, and certain extensions of role—into product-design, for instance—seem to have been tacitly abandoned since the nineteen-thirties. There are probably a number of reasons for this, but most of them, including the legally enforced codes of conduct that architects have created for themselves, are traceable to a feeling that modification of the accepted roles beyond a certain point threatens the integrity, or even the identity, of the profession.

Quite apart from certain obvious worries about such marginally extra-professional activities as contracting, this self-stabilizing tendency operates also in a more generalized and diffuse manner to preserve the *status quo*. We have seen a notable example of this in the past decade, one that has done much to precipitate the present confused state of world architecture. Using student opinion—articulate but disengaged from the daily routine of business—as a barometer of opinion, one could distinguish, shortly after 1950, a strong feeling that architectural theory was leaning so far towards sociology and technology as determinants of architectural form that—in practice—architectural form was not being determined at all, or—alternatively—such form as was being determined was not architectural. There were demands to *get back to architecture*—a classic response, closely resembling that which Charles Eames described in his 1959 Discourse at the RIBA as a reliance on 'the lore of the operation.' Whether or not this situation brings with it the dangers to which he also referred—'The danger of this procedure is that operational lore, being an integration of experience rather than apparent intelligence (i.e. available information), sacrifices sensitivity in order to gain stability'—whether or not this is true, it has happened, and constitutes one of the two major pressures to which architecture has been subjected in the last decade.

The first phase of this return to operational lore was Anglo-Italian, an appeal to the Classical Tradition; not to the nearer end of that tradition as summed up in, say, the work of Auguste Perret, but to the beginnings of modern classicism in the Italian Renaissance. Its symbol was the Vitruvian Man, its slogan 'Divina Proporzione,' its hero Palladio, its prophet—quite coincidentally—Rudolf Wittkower. The appeal was not to the forms and

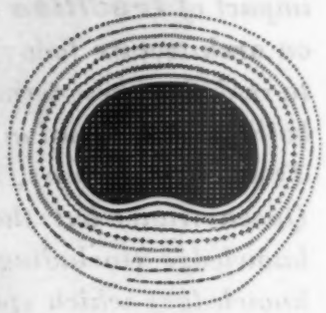


Man (Vitruvian and Modulor) as geometry.

details of Renaissance architecture, but to the underlying proportional mathematics, as set out in Professor Wittkower's *Architectural Principles of the Age of Humanism*, and echoed after a fashion—equally coincidentally—in Le Corbusier's *Modulor*. The upshot was not Neo-Georgian, but an aggressive axiality of plan, and a reliance on modular devices as planning tools. This particular moment has passed, and not left much behind—some projects for 'Palladian Power-stations,' some hotly-

technology

narrowly professional frame of mind to refer its beginnings solely to the cave or primitive hut.



Personal architecture—vest to overcoat.

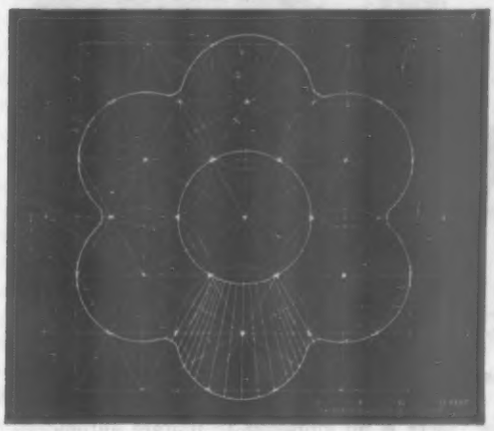
The service that architects propose to perform for society can often be accomplished without calling in an architect in the sense discussed in the article that runs parallel to this, and the increasing range of technological alternatives to bricks and mortar may yet set a term to the custom-sanctioned monopoly of architects as environment-purveyors to the human race. These alternatives, whose justification is measurable performance rather than some cultural sanction, extend, however, beyond the provision of technological services, and include analytical techniques as well, so that it becomes possible to define 'home' without reference to hearth or roof, but simply as the integration of a complex of intrapersonal relationships and mains-services. To do so would, in fact, be to depart so far from the operational lore of the society which we inhabit as to provoke alarm and discomfort even among the scientists and technicians who, within their specialities, regularly employ these techniques. Nevertheless, a moment's reflections on such phrases as *TV Theatre* or *Radio Concert-hall* will show how far technological advance has made nonsense of concepts that were hitherto building-bound, and yet has gained popular social and cultural acceptance.

Under the impact of these intellectual and technical upheavals the solid reliance of architects, as a profession, on the traditions of that profession must eventually give way. Yet the Functionalist slogan 'a house is a machine for living in' gives nothing away because it begins by presupposing a house. Far more seditious to the established attitude of architects is the proposition that, far from caravans being sub-standard housing, housing is, for many functions, sub-standard caravans. Outside the context of architectural discussion this would be a pretty radical criticism of current architectural concepts, but within the profession it stands simply as a marginal criticism of some aspects of housing that need improvement in detail.

This may be taken as typical of the profession's professional attitude to the impact of technological and scientific alternatives for the art of building. The profession tolerates a few peripheral radicals, whose ideas call the whole professional apparatus in question. Such a man is Buckminster Fuller, recently made a member of AIA, and thus accepted as relevant to architecture in the professional sense. But it is clear that Fuller is admired for his structures and accepted as a form-giver, while his elaborate body of theory and fundamental research into the shelter-needs of mankind is mostly dismissed unread. An extreme technologist more to the profession's taste is Konrad Wachsmann, whose work does not question the need for buildings but concentrates

discussed Fifth-year student Thesis projects, now forgotten, and a slowly waning admiration for things Italian—of which the slowest-waning, perhaps, is the reputation of Luigi Moretti, whose *Casa del Girasole*, discovered by Anglo-Saxons in 1952, was for some years a test of taste.

But, in a more generalized sense this moment in the history of modern architecture has left much behind. It marks the beginning of the persistent belief in modular number patterns as disciplines inherently beneficial to architecture—a belief now institutionalized in the Modular Society, where, however, attempts are being made to give it a footing in something more solid than vague sentiments inspired by reliance on operational lore. Somewhere in this moment too lie the origins of the present addiction to formality of the middle and elder generation among US architects*—the use of classical pavilion forms by Ed Stone and Walter Gropius in their recent embassies in New Delhi and Athens, or by Mies van der Rohe in his Baccardi building, or the use of multi-axial symmetries and vaulted coverings by Philip Johnson, in such examples as his Shrine at New Harmony. In the case of Johnson—early a devout Wittkowerian—the apparent historicism is backed by the resounding proclamation of faith: 'Hurrah for History. Thank God for Hadrian, for Bernini, for Le Corbusier and Vince Scully.'

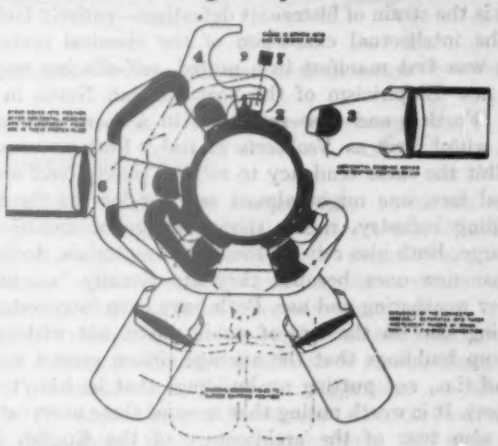


Geometry of Shrine at New Harmony.

Scully, through his celebrated lectures at Yale, has—like Wittkower, Colin Rowe, Bruno Zevi, and others—done much to give history-teaching a new dynamic, and thus to add a richness to the traditions of operational lore that has not been there since the death of Soane and Schinkel. What is new in this situation is the way that the revived interest in history has not come about in countries whose great architecture is all in the past, and the future has nothing to offer, but in countries—like the US—who appear to have a wave of great architecture ahead of them in the immediate future, and one of the effects of this new sense of history has been to produce a reassessment of the work of the masters who will set the style for that future. Thus, just before the 'rediscovery' of history, there was a current of opinion that tended to evaluate Mies van der Rohe's architecture in 'technologial' terms as a theoretically endless accretion of 'additive' units. After the rediscovery of history, this view, propagated by Richard Llewelyn-Davies and Gerhard Kallmann, was replaced by an emphasis on Mies

*This problem will be further discussed by Professor Jordy in next month's A.R.

a fanatical watchmaker ingenuity on the solution of certain problems within the given context of built structure—and here it may be noted that while his celebrated joint for the space-frame roof of the B36 hangar was associated with a fairly radical structure, his equivalent work on the General Panel House was associated with a dwelling-concept of the utmost banality.



Machinery of Wachsmann frame-joint.

Again, the research and teaching being undertaken by the *Hochschule für Gestaltung* at Ulm, while it asks some searching questions and produces some truly radical answers, does so within a mental concept that substantially accepts the limits that the architectural profession has set itself. In many ways, Le Corbusier's *Murondin* project for installing sophisticated mechanical services in mud-huts showed a greater radicalism of approach than either of these last two examples.

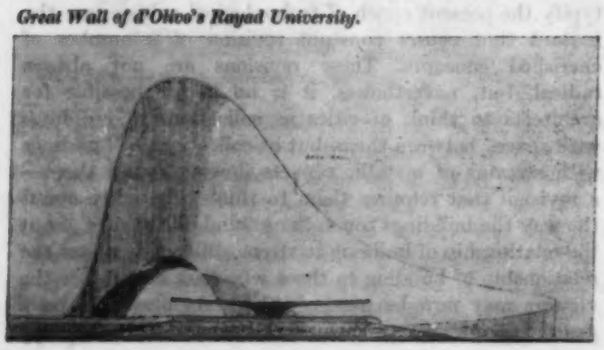
In any stocktaking of the present condition of architecture, then, it must be accepted that the human environments under consideration are constructed environments, static, more or less permanent and designed to operate without the consumption of too much mechanical energy. These last two provisos are both rather relative since no discussion of the present state of architecture could decently ignore the tented structures of Frei Otto and other semi-permanent exhibition environments, nor could it ignore the fact that some of the most permanent and static structures being built today—such as atom-proof command posts or office blocks in extreme climates—can only be kept fit for human activities at the cost of pouring vast quantities of mechanical energy into them in the form of air-conditioning and artificial light. Within these provisos, the mechanization of the total environment in which architects are called upon to work still acts as a powerful stimulus to their professional activities. Automobiles, the ever-present symbolic objects that typify the present epoch of technological culture, are the irritant that causes constant revision of a number of cherished concepts. These revisions are not always radical, but, nevertheless, it is no longer possible for architects to think of cities as collections of buildings with spaces between them, but as collections of buildings with streams of metallic objects flowing round them—a revision that requires them to think differently about the way the buildings touch the ground, differently about the relationship of building to street, differently about the relationship of building to those who look at it, since the viewers may now be passing it at sixty-plus mph on a gently rising curve or in an underpass whose sides may

as a classicist, on the axial symmetry, regularity and modular organization of his planning, and his debts to German Neo-Classicism.

Aside from these returns to the classical lore of the architectural operation, another, older stream of latent historicism has burst forth on the surface again, after a period when it was buried by classicist enthusiasms. This is the strain of historicist defeatism—entirely lacking in the intellectual exaltation of the classical revival—that was first manifest in a muted, self-effacing way as the new Empiricism of the Scandinavian North in the late 'Forties, and now reappears in a more aggressive and wilful form as *Neoliberty* in Italy. Both movements exhibit the same tendency to rely on purely *local* operational lore, one might almost say the lore of the local building industry, rather than the lore of architecture at large. Both also rely on the lore of materials, declining to use new ones because they are visually 'unreliable' under weathering and use. Both have been interpreted as relying also on the lore of public taste, not wishing to put up buildings that the average citizen cannot understand (i.e., not putting up buildings that he hasn't seen before). It is worth noting that most of these observations are also true of the architecture of the English New Towns, where the same frame of mind appears to have governed the town-planning as well.

Neoliberty also introduces another problem of acute interest in the present state of architecture, but this must be left over, for the moment, in order to consider the general import of these historicist trends. The blanket term most commonly in use to cover all the tendencies in modern architecture that deviate from the functionalist norms of geometrical purity and plan-wise asymmetry, is *Formalist*. The term is fair enough, provided limitations are placed around its usage. There is little sign at the moment of out-and-out formalism, of shape-making for the sake of shape-making. Even the paper-projects of an architect like Marcello d'Olivo keep within certain bounds, and those bounds are within the limits of the lore of the operation—nothing like Action-painting has happened to architecture yet. For this reason, the deviation from the canons of Functionalist form does not constitute *Une Architecture Autre*, as Odo Kulterman appears to believe (to judge from his article in *Baukunst und Werkform*, 8, 1958). If the concept of an Other architecture has any place in this survey, it is in the article that runs parallel to this one. New shapes notwithstanding, it is still the same old architecture, in the sense that the architects involved have relied on their inherited sense of primacy in the building team, and have insisted that they alone shall determine the forms to be employed. Formalism it may be, but it remains formalism within the limits of a professional tradition, albeit that

Great Wall of d'Olivo's Rayad University.



effectively blank off the whole of the lower storey when the viewer is on the axis of the main façade.

Conversely automobiles as the manifestation of a complex and agitated culture-within-a-culture producing discrete objects which are themselves environments for human activities, provide a standard of comparison for the activities of the architectural profession. They may ruefully compare the scale of the constructional work produced by the automobile culture with that entrusted to architects; they may enviously admire the apparently close communion that exists between users and producers, the direct way in which designers and stylists seem to be able to apprehend the needs of motorists and satisfy them, and they may also draw from the work of stylists some sobering conclusions about the possibility of tailoring aesthetics to fit the aspirations or social status of the clients. The concept of *the style for the job*, which was most recently enunciated in the ARCHITECTURAL REVIEW by James Gowan in December 1959, has frequently been explained or criticized in terms of the gradations of automobile style for different parts of the market, always with the assumption (sometimes justified) that these

Custom designed owners of Oldsmobile.

gradations are the result of scientifically accurate market research.

However, there is no ambition to imitate automobile form—the only exception to this rule appears to be the 'styling' of the Smithson's *House of the Future* on the assumption that mass-produced houses would need as high a rate of obsolescence as any other class of mass-produced goods. Such a sentiment is rare, however, because the operational lore of architecture seems not to include the idea of expendability. On the other hand, the forms of the more permanent products of technology are liable to imitation—to cite a notorious example, the development of cooling towers for power stations has been paralleled by a series of pseudo-cooling towers from Eric Mendelsohn's hat factory of 1921, to Le Corbusier's Parliament House for Chandigarh.

This sincere flattery of technology is one facet of the almost fetishistic regard afforded to certain classes of engineers, an admiration that has undergone an important change in the last decade. The respects paid by the early masters of modern architecture to the engineers they admired was not paralleled by any attempt to mimic the forms of their work—where will you find Freyssinet echoed in early Corbusian design, or Maillart in Max Bill despite the latter being the great bridge-builder's devoted biographer? Yet nowadays the desire

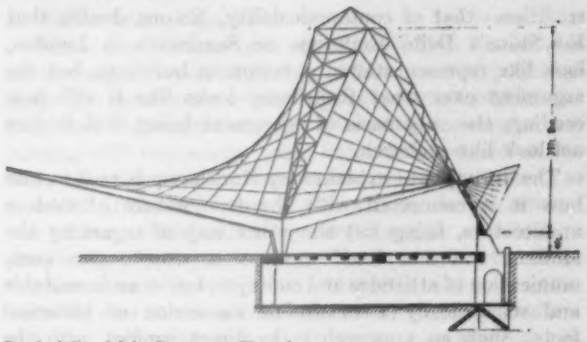
tradition is now wide enough to span from the Neo-libertarians to d'Olivo, from Mies van der Rohe to Bruce Goff.

But to return to the specific significance of Neoliberty. It is a revival, but not of an historical style in the sense that Doric or Gothic are historical styles. Art-historical niceties about the precise degree of modernity that Liberty (Art Nouveau) can claim, do not affect that it is not a style enjoying long-ingrained cultural approbation, like the great styles of the remoter past, but a style of our own time, propagated through international magazines and exhibitions by men conscious of living in a machine age.

Its revival implies a recognition that the allegedly anti-traditional Modern Movement has a tradition of its own. Reliance on the traditional lore of the operation no longer necessarily means relying on a tradition older than oneself—the men who made the tradition are, mostly, still alive. However, a further new factor, over and above the recognition of a new tradition, is the existence of two different ways of looking at that tradition. On the one hand, it may be accepted as a tradition of the sort we have known before, passed from master to pupil, teacher to student, almost subliminally as a succession of ever-mutating attitudes and preconceptions, constantly in process of change as the needs and aspirations of successive generations came to bear upon it. This, if it existed, would be the mainstream of Modern Architecture today. But the stream has practically vanished, and consists of isolated individuals, like pools in a drying torrent-bed—and the pools are drying out, too. Two years ago, one could have pointed to Wells Coates and André Sive as mainstream modernists, in the sense of men inhabiting a live modern tradition, but not any more. For the most part, this kind of smoothly-developing modernism exists nowadays in the work of large offices such as Skidmore, Owings and Merrill, or Yorke, Rosenberg and Mardall, or in solitary originals like Bakema, Goldfinger or Denys Lasdun. It also exists, with pronounced local characteristics, in Brazil and other Latin American countries.

But what, then, of the men who ought to be the great mainstreamers, the four architects whom Henry-Russell Hitchcock identified as the masters of the Twenties and Thirties? J. J. P. Oud long ago made his private retreat into local professional lore. Mies van der Rohe has isolated himself in a bronze tower more pure than ivory, driven there by a logic that would have worked equally well in a vacuum where modern architecture did not exist. Gropius has become the Dean of the Formalists, Doric in Athens, Islamic in Baghdad. And Le Corbusier?

While it is generally conceded that the apparent formalisms of a Frank Lloyd Wright were a law unto themselves, justified by the dimensions of an almost Michelangelesque personality, there is clearly a widespread feeling that the apparent formalisms of Le Corbusier answer to some law obscurely, but vitally, inherent in the business of architecture. No sooner were the implications of Ronchamp apparent than a dozen pens were at work explaining that its forms were not a wilful contradiction of everything that Le Corbusier had done before, but the fulfilment of certain aspects of himself, or modern architecture in general, that had lain dormant. It is clear that Ronchamp is not Formalism in the commonly accepted sense, because it does not gain the one secure advantage of formalizing within the



Roof of Candela's Coyoacan Chapel.

to incorporate engineering forms into architectural designs is so overwhelming that engineers like Nervi, Candela, Torroja and others enjoy a status both as collaborators with architects, and as the creators of imitable forms, that engineers have never had before.

Just how far this is merely the employment of engineers as alibis for fancy formalisms is difficult to assess, though Robin Boyd made some pertinent suggestions on this subject in *The Engineering of Excitement* (ARCHITECTURAL REVIEW, November 1958). Over and above this is the possibility that the freeing of floor-space from intermediate supports which new vaulting techniques and space-frame trusses make possible, is being used in one way and explained in another. Great clear spans make possible a free and untrammelled functional disposition of interior spaces—this is one of the promises of Fuller's domes, for instance. But they also clear the floor for free and untrammelled exercises in architectural sensibility—which seems to be what happened, in fact, inside the geodesic dome furnished by Roberto Mango at the 1954 *Triennale di Milano*.

Such situations are not as rare as might be supposed—Mies van der Rohe's project for a theatre in a giant aircraft hangar is another debatable case in point—and they represent the continuance of a trend that has been with us since the beginning of the century; the marriage of the logical objectivity of abstract aesthetics to the experimental objectivity of advanced science. It goes back to Perret, it also has roots in *de Stijl* and Constructivism. In the guise of the 'logical formalism' of Mies van der Rohe it has served the important function of easing the acceptance of curtain walling and other additive prefabricating systems as 'architecture' in a sense that can be assimilated to the lore of the operation.

However, it should be noted that when prefabrication gets out of the direct control of architects, into the hands of engineers, it almost invariably ceases to be rectangular in its format. Fuller's work is again a case in point, so is that of Jean Prouvé, which has persistently relied on tapered portals, sloping walls and curved members. However, there is a division of mind here between architects and engineers that goes much deeper. The operational lore of the architectural profession has assimilated prefabrication as a technique applied to fairly small repetitive components to be assembled on site. Such an arrangement leaves the determination of functional volumes still securely in the hands of architects, and the physical creation of those volumes securely in the hand of traditional-type site labour.

But prefabrication, for most of the creative minds in the plastics business, means something quite different. It means—as Michael Brawne has suggested (*Polyester*

tradition—that of communicability. No one doubts that Ed Stone's Delhi Embassy, or Saarinen's in London, look like representational government buildings, but the argument over what Ronchamp looks like is still proceeding, the only basis of agreement being that it does *not* look like a church.

The attempts to explain why Ronchamp is as it is, and how it is connected with the true nature of modern architecture, bring out the other way of regarding the Modern tradition itself—not as a man-to-man communication of attitudes and concepts, but as an immutable and scientifically ascertainable succession of historical facts. Such an approach is in direct conflict with the 'traditional' view of the modern tradition, and has been described as 'using facts to pervert the history of modern architecture' by supporters of that view. It has also led to persistent allegations of modern eclecticism being levelled against younger architects who hold to the 'scientific' view of recent history. Very often this is true, particularly at student level where the formal vacuum of half-trained minds can as easily be filled with pickings from the Twentieth Century as from other centuries. But much of this alleged eclecticism has been the stimulus, mask, or vehicle of radical attempts to establish 'what really happened in modern architecture.'

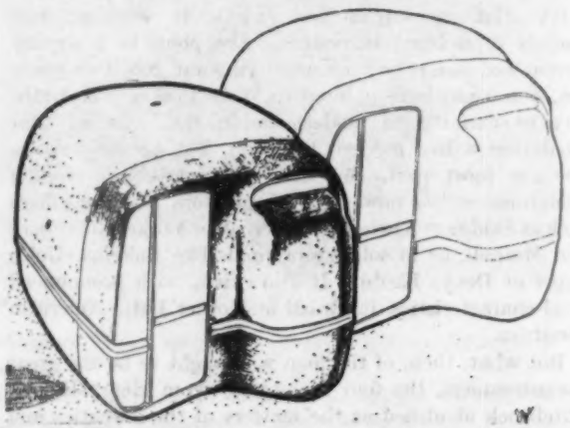
The most important aspect of this view of the tradition is its all-inclusiveness. The other type of tradition proceeds by what might be called 'selective amnesia,' each generation forgetting anything that had ceased to be of interest in order to find room for new matters of interest that had come up in its own time. The new view, on the other hand, demands total recall—everything that wasn't positively old-fashioned at the time it was done is to be regarded as of equal value. The Futurists must be discussed in the same breath as the Deutscher Werkbund, de Klerk must be put alongside Rietveld, Maybeck alongside Wright. The guardians of the Modern tradition, such as Sigfried Giedion, have been called in question for forgetting too much, and—it is claimed—distorting the truth by over-selectivity. In revenge, every discarded formal and functional device that was dropped or ignored by the developing mainstream must now be re-examined and, wherever applicable, re-used.

Much of what results—projects and a few finished buildings—is, indeed modern movement revivalism, the resurrection of usages (though rarely of total building forms) of the architecture of the Twenties, or even the Forties—David Gray's house at Lowestoft can serve as an example of the former, the Smithson's school at Hunstanton of the latter. But Hunstanton—the building by which the much-battered term 'New Brutalism' is commonly defined—immediately raises another problem altogether. Wherever the scientific and all-inclusive attitude to recent history is found, it is nearly always accompanied by a similar attitude to the use of materials. The mystique of materials 'as found' involves (a) a resolute honesty in their use (paralleling the refusal to allow a selective attitude to historical fact) and (*b*) an insistence that all the qualities of a material are equally relevant.

Thus, in the Hunstanton School, steel is given a far higher valuation than the rather abstract one implicit in Mies's work. Its visual quality as a rolled product with makers' trade marks embossed on it is given value, the nature of its ultimate performance under stress is acknowledged in the use of plastic theory by the engineer

Fibreglass, Architectural Review, December 1959)—the fabrication of components large enough to be effective determinants of functional volumes. Thus, the Monsanto House has only four large components to form the whole of one of its cantilevered rooms (bar the lateral windows) while some of the products envisaged by the French group around Coulon and Schein call for the off-site fabrication of complete functional volumes such as bathrooms and kitchens, a procedure which both has structural advantages and makes it possible to complete most of the fabricating work under controlled, laboratory conditions. The result seems likely to be a house put together from large non-repeating units—except for the joiners which, like railway corridors, must be universal fits. In larger structures room-units might be carried in an independent frame, but in either case the result should be that service-rooms, which need to be connected to the public mains, might be treated as expendable clip-on components, thus obviating some of the difficulties of

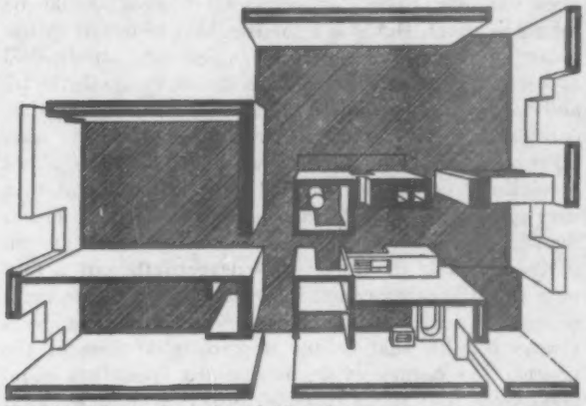
Complete Coulon/Schein plastic dwelling units.



the Appliance House project, which runs the risk of degenerating into a series of display-niches for an ever-changing array of domestic machinery.

However, such ideas have hardly touched the general body of architecture at all as yet. Much of the most painstaking and valuable research that can be shown, has been undertaken in conditions that presuppose the existence of rectangular buildings. Much of this work has been structural, concerned chiefly with prefabrication techniques, a field in which, for instance, the Ministry of Education and independent commercial experimenters can be found advancing, from the other end, into territory already being prospected by the Modular mathematicians. Elsewhere, as with the Nuffield Trust, a great deal of solid, plodding work, that most architects would rather not undertake, has been accomplished in the fields of space-requirements and the physiological effects of daylighting and colour. The fruits of such work, because of the 'logical formalist' connection discussed above, often wear a characteristic air of grid-like simplicity which, it should be noted, derives more from the mental disposition of the men involved than from the findings

responsible for the structural calculations. Or, to take another work that has been abused for modern eclecticism, the development at Ham Common by Stirling and Gowan differs from its acknowledged sources (such as Le Corbusier's Jaoul houses) by using brickwork calcu-



Neo-historicism and calculated brickwork.

lated to the limits of the load-bearing capacity—a decision that is more responsible than any Twenties-revivalism for the use of the dropped windows, with their inverted-L shape.

This, finally, brings us to the most significant aspect of the rigorous scrutiny of the history of the modern movement: the rediscovery of science as a dynamic force, rather than the humble servant of architecture. The original idea of the early years of the century, of science as an unavoidable directive to progress and development, has been reversed by those who cheer for history, and has been watered down to a limited partnership by the mainstream. Those who have re-explored the Twenties and read the Futurists for themselves feel, once more, the compulsions of science, the need to take a firm grip on it, and to stay with it whatever the consequences.

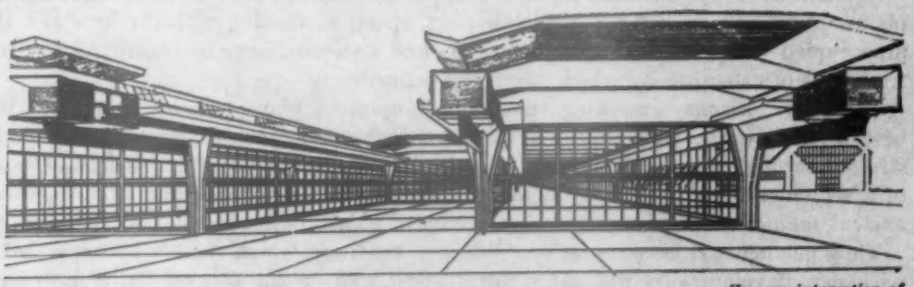
The consequence, in some cases, appears to be to whisk them straight out of formalism and modern historicism altogether, to make them abandon the lore of the operation, and make use of 'apparent intelligence' instead.

of the research programmes.

Where research has been surprisingly thin has been in office-design, in spite of the large sums involved (although there has been some clever *ad hoc* rationalizing in this field) and in domestic work, in spite of the vast amount of housing still necessarily being built. Even clever *ad hoc* rationalization could show results in housing, but, as was said at the beginning of this article, the operational lore of our whole culture renders domestic architecture practically proof against scientific attitudes. On the other hand, it should be noted that via market and motivation research, and the long accumulation of sociological data, extensive scientific inroads into the 'sanctity of the home' have already been made, and when domestic designers can master their fairly long-standing distrust of sociologists, and their new-found distrust of 'Hidden Persuaders' they may well find that a great deal of very suggestive research is already at their disposal.

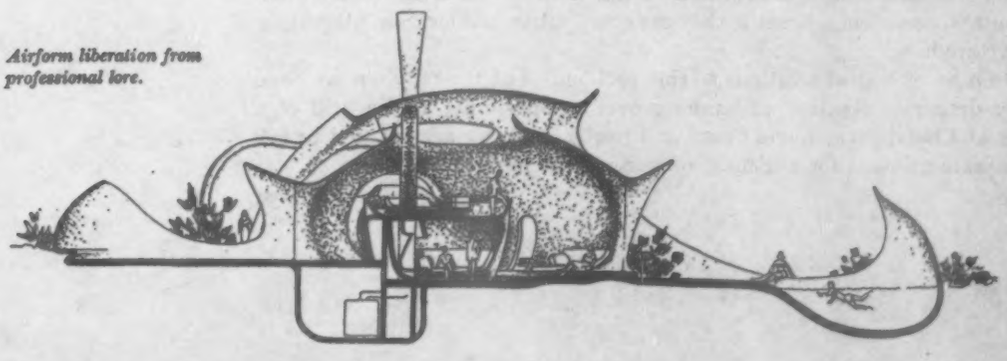
In the meantime, science and technology touch architecture chiefly at the level of structural justification and organizational confusion. One specialist consultant makes the building stand up, six others render it largely useless by means of the services that are intended to make it usable. By and large, architects have established a peaceable and fruitful technique of working with their structural engineers. In England, engineers like Samuely, Arup and Jenkins, in France men like the late Bernard Laffaille and René Sarger, in the USA men like Fred Severud, Mario Salvadori and Paul Weidlinger or offices like Smith, Hynchman and Grylls, could claim to have played a dominant and valuable role in the architectural developments of the last ten years, but no other body of consultants could claim anything of the sort—though some architects might, nowadays, find a good word for the more enterprising type of quantity surveyor.

The fact remains that heating, lighting, ventilating, air-conditioning, acoustics, office machinery and other more specialist services seem for the moment incapable of assimilation to the harmony established over the years between structural engineers and architects. The few breaks in this unpromising situation appear to derive from lighting engineers and acousticists with archi-



Zanuso integration of structure and services.

Airform liberation from professional lore.



But this may be only an appearance—certainly John Johansen's *Airform* house has the appearance of a radical reversal of attitude for a one-time Neo-Palladian of the strictest sort, but equally certainly, many of the most apparently liberated spirits of our time, the intellectual freebooters of the border-land between tradition and technology will not, in the last resort, renounce the lore of the operation. Thus Charles Eames, who has introduced the concept of operational lore into architectural thought, and made with it a plea for the acceptance of scientific attitudes of mind, could still say, toward the end of his Discourse 'Yet, in this circumstance I have described, and in these tools that I have described, I see and feel something which is a real continuity in the architectural tradition. . . . The real planning, the real architecture, the building of the future, is going to be built with something similar to these tools, and part of these circumstances. My plea is that it fall under the head of that great name, architecture, which embraces it.'

tectural training, and from a few liberated spirits, notably Lou Kahn with his 'topological' science blocks for the University of Pennsylvania, or Marco Zanuso with his integrated structure-and-air-conditioning schemes.

This may be a bull-dozer solution for a problem that Mies van der Rohe, for instance, believes should be solved in secret. But it is a solution that brings us to the point of fusion of the technoiogical and traditional aspects in architecture today. Kahn is sympathetic to, and has been classed with, the Brutalists. On both sides, enterprising and intensive scrutiny of tradition and science appears to suggest a way out of a dilemma, if not a solution to a problem. But it is a balancing feat that may prove to need acrobatic skill and expertise in brinkmanship as architects edge temeriously along the margin of the scientific disciplines and never quite put a foot over into the other camp. From the scientific side there is neither such caution nor such finesse. It appears always possible that at any unpredictable moment the unorganized hordes of unco-ordinated specialists could flood over into the architects' preserves and, ignorant of the lore of the operation, create an Other Architecture by chance, as it were, out of apparent intelligence and the task of creating fit environments for human activities.

The Gap—Town Planning

1

viii

When all this has been said, and stock has been taken of the present situation, there remains one yawning and alarming chasm between technology and tradition, between operational lore and apparent intelligence—town planning. In a field too expensive for experiment, too full of practical minutiae for paper guesses or diagrammatic utopias to carry much conviction, the pull between the Two Cultures, as Sir Charles Snow has called them, results in a situation that would be tragic were it not more like the nihilistic farce of Ionesco and the Other theatre.

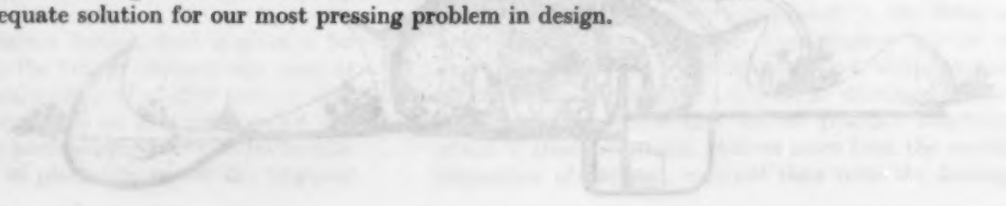
The idea of cities is an ineradicable part of the operational lore of civilization—a word which implies cities anyhow. The concepts we have of cities are as old as philosophy, and are so rooted in the language of cultured discourse that to say 'Cities should be compact' is to commit a tautology—we cannot conceive of a diffuse city, and have invented other words, such as *conurbation*, *subtopia*, to underline our inability to conceive it.

Against this, the manifestations of apparent intelligence, in communications, traffic planning, services, industries, entertainment, sport, all dealing with the here and the now, preoccupied with current information, news and statistics, have no regard for the inherited traditions of urbanism by which towns are defined.

Yet most citizens—including those called upon to plan—are determined to have the best of both worlds. They expect to be able to drive straight down an Autoroute de l'Ouest, straight through the Arc de Triomphe, and into a Champs Elysées that still has the urbanity of a sequence from *Gigi*. They demand suburban expansiveness, and urban compactness, ancient monuments and tomorrow's mechanical aids simultaneously and in the same place.

They get neither, because on one side is a tradition which cannot be expanded to deal with new developments without disintegrating, and on the other hand a disorderly pressure of new developments whose effect—because they are competitive and lack an integrating discipline—is disruptive anyhow.

There may be any number of logical solutions to this problem—but the only one we have so far is the relatively desperate solution of handing over responsibility to the will of a dictator—Le Corbusier at Chandigarh, Lucio Costa at Brasilia—and we are entitled to ask whether this is an adequate solution for our most pressing problem in design.



HOSPITAL AT SWINDON

ARCHITECTS | **POWELL AND MOYA**

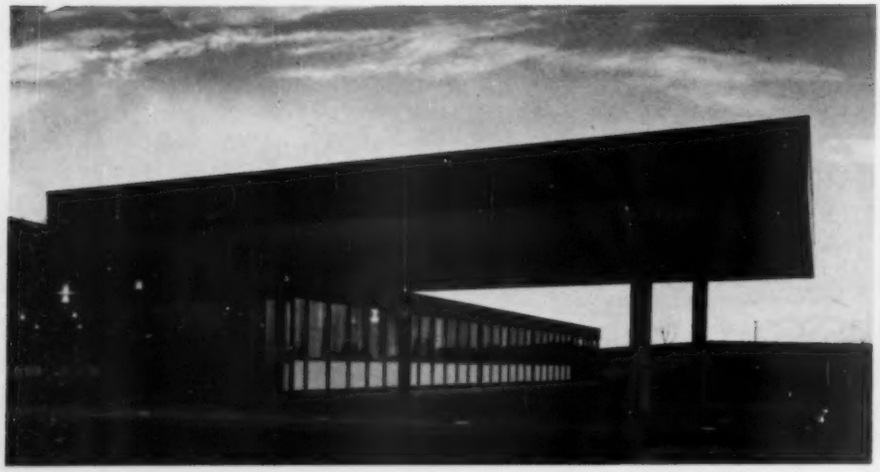
assistants: S. P. Skinner; J. C. Calderhead
consulting architect: R. Llewelyn Davies
architect to Oxford Regional Hospital Board: W. J. Jobson

The upper parts of the building have a reinforced concret frame faced with slate. Base walls and retaining walls are faced with stone. 1, looking east between the Outpatients' and the Physical Medicine Departments. On the right is the single-storey animal house. See plans on page 104.

HOSPITAL, SWINDON

2, looking along the entrance front, past the Outpatients' and Casualty Departments. The main ward block, to be built as part of the second stage, is shown diagrammatically beyond.
3, close-up of porch, looking in the opposite direction to 2.
4, looking through the draught-lobby that separates the porch from the Outpatients' entrance-hall.
5, the other side of the Outpatients' Department, from the garden.
6, from the same garden, looking towards the Physical Medicine Department. On the left is the glazed link between the two departments.

2



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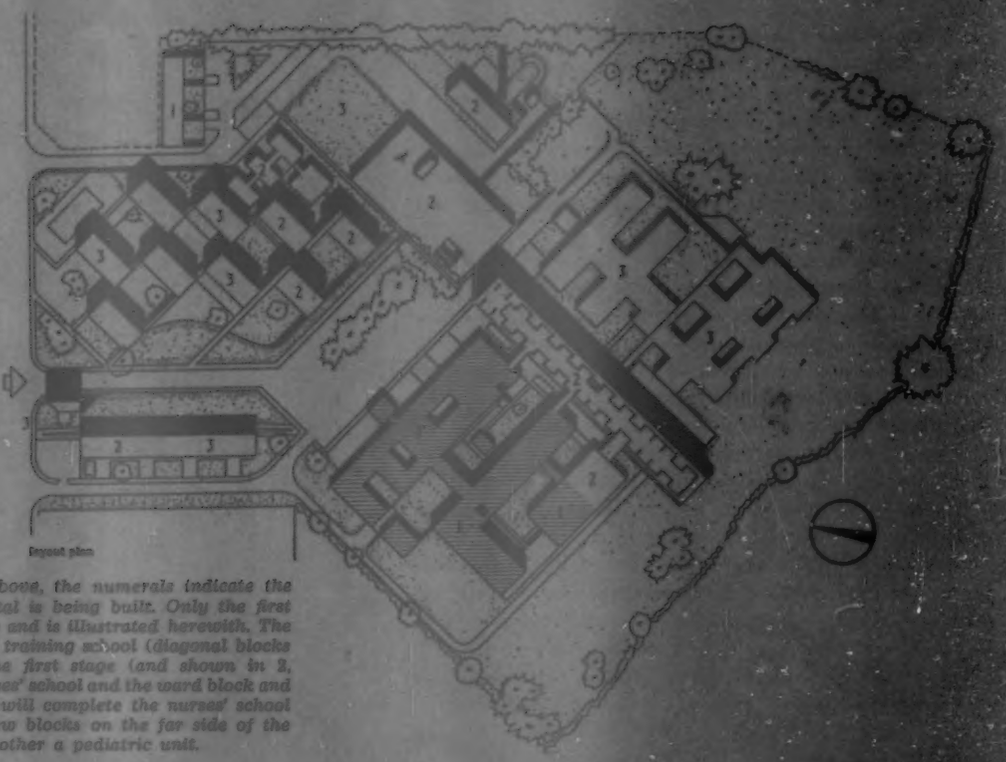


In the layout plan of Swindon hospital, above, the numerals indicate the three successive stages in which the hospital is being built. Only the first stage, diagonally hatched, is so far complete and is illustrated herewith. The second stage will include part of the nurses' training school (diagonal blocks above), the high ward block adjoining the first stage (and shown in 2, opposite), the kitchen block between the nurses' school and the ward block and the boiler-house beyond it. The third stage will complete the nurses' school and add a laundry alongside it and two new blocks on the far side of the ward block: one a maternity unit and the other a pediatric unit.

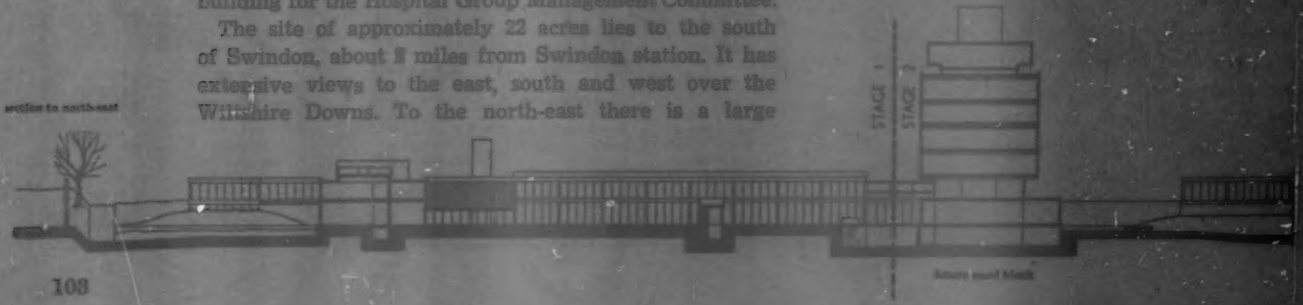
This is the first stage of what will be a 600-bed general hospital, and consists of the following departments: outpatients', casualty, physical medicine, pathology, X-ray and the first of the four operating theatres. The part of the building reserved for the records and pharmacy departments is, in the first stage, occupied temporarily by a 39-bed accident ward, and the east end of the X-ray block is occupied temporarily by a central sterilizing and supply department, which will later be housed in the Stage II buildings. In addition, there are three staff houses and a small temporary kitchen, dining room and boiler house.

Stage II will consist of the following: a block containing four storeys of wards—312 beds (seven standard 40-bed wards and one 32-bed psychiatric ward); on the upper ground floor, the main entrance hall and hospital offices; on the lower ground floor the central sterilizing and supply department. Access from the service zone is at this level. This service zone will contain the kitchens, staff dining rooms, hospital stores, boiler house and workshops. Three hostels for student nurses and part of the block of flats for senior nursing and resident medical staff will also be included in this stage.

Stage III will provide approximately 250 more beds, sited to the east of the main ward block—maternity unit, children's wards and geriatric wards. Also a laundry in the service zone, more residential accommodation, in particular for trained nurses, and a small office building for the Hospital Group Management Committee.

The site of approximately 22 acres lies to the south of Swindon, about 1 miles from Swindon station. It has extensive views to the east, south and west over the Wiltshire Downs. To the north-east there is a large builders' works, which will be screened from the main hospital buildings by siting the service buildings for the hospital along this boundary. The site rises up from the southern boundary, flattening out to a plateau (the bottom of a worked-out quarry) at the north. Existing mounds of surplus earth and stone from this quarry are being retained and will be used as features in the landscaping.

The sloping site has enabled two ground levels to be planned to separate the two streams of hospital traffic, public and internal. The upper ground floor, which is reached from the main entrances, serves outpatients, casualties and visitors to the wards, and the lower ground floor is reserved for internal hospital circulation, distribution of supplies and food and removal of bodies to the mortuary. On this level also are the major operating theatres, X-ray department, pathology laboratories and central sterilizing and supplies department, all of which serve both the ward block and the outpatients' and casualty departments. Service buildings such as kitchens, boiler-house, group laundry, workshops and general stores are on the north-east corner of the site, down wind from the main hospital buildings and out of view from the main wards. The kitchens are connected with the lower ground-floor level of the main ward block by a short underground link, from which heated trolleys are distributed vertically by goods lifts into the ward kitchens. On each floor of the main ward block the



wards are grouped in pairs on either side of a central area containing stairs, lifts and accommodation which can be shared between two wards.

The main hospital buildings consist therefore of a multi-storey ward block with extensive views straddling, at right angles, the single and two-storey outpatients' and treatment departments and also the maternity and children's wards.

The buildings in Stage I are in one- and two-storey blocks, and are mainly the diagnostic departments. They have been designed to be as flexible as possible to allow for later alterations or extensions. Small individual waiting areas, planned as alcoves off the main corridors with views over the surrounding countryside or over garden courtyards, are provided for each outpatients' clinic. The large, central waiting hall has thus been avoided. Visits to clinics will be on an appointments system.

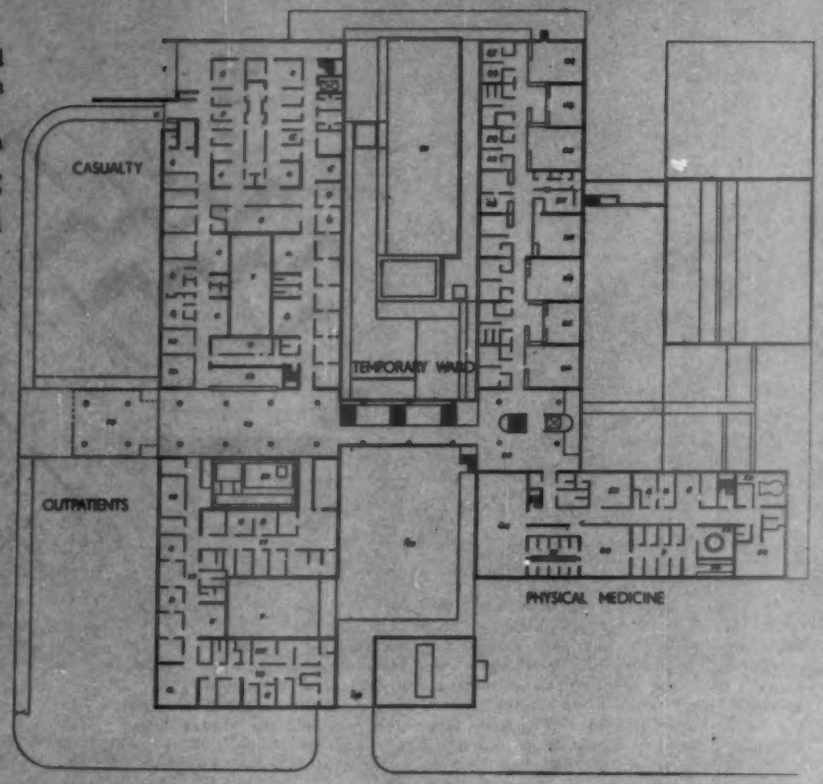
The structure consists of reinforced concrete columns and flat, in-situ reinforced concrete floor and roof slabs. The columns are supported on normal mass concrete bases. The external face of the columns and the slab upstands are faced with 1in. slate. The roof finish generally is cork insulation, screed and 3-ply roofing felt, with varying roof finishes; e.g. grey granite chippings, concrete tiles, asphalt or 9in. of earth sown with grass.

Windows consist of hardwood mullions (West African mahogany) at approximately 4ft. centres, bronze-faced externally, with aluminium sashes, double-glazed fixed lights or adjustable glass louvres. Apron panels consist of white glass with wood wool with aluminium foil backing, air space insulation and plastic-faced ply internal facings.

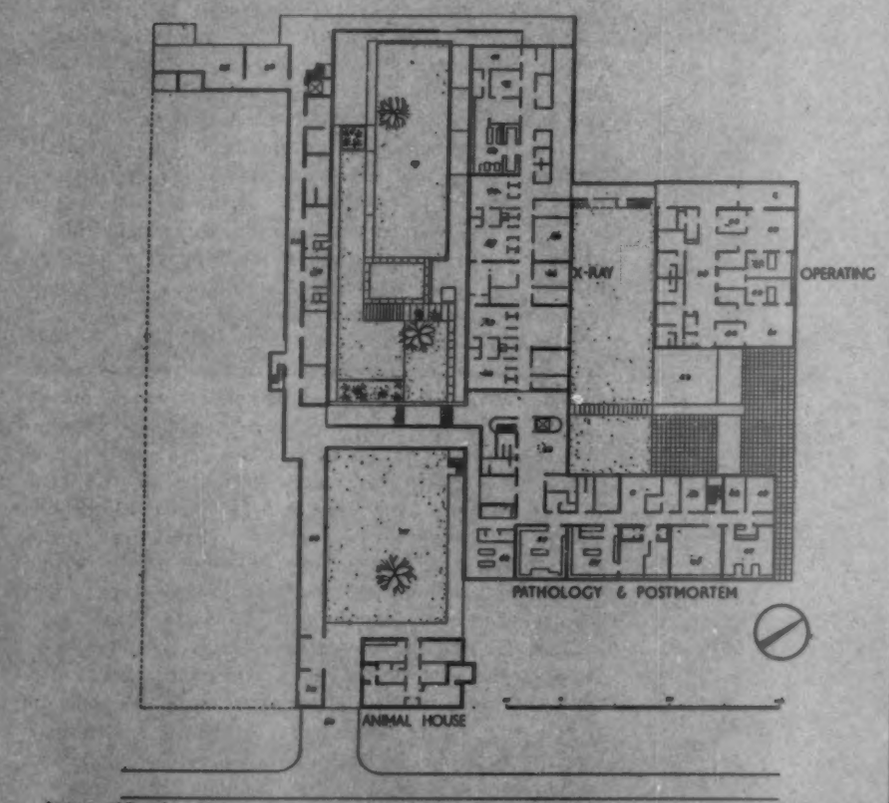
Internal partitions generally are of 2½in. clinker blocks with stretched wire reinforcement on each side, plastered and finished with emulsion paint. Joinery is hardwood (generally West African mahogany). Ceilings are plastered, but in some of the building there are false ceilings concealing services. These have perforated acoustic tiles. Floor finishes are as follows: cork tiles generally; ribbed black rubber tiles in main outpatients' entrance hall; lino tiles in some corridors and lower ground floor rooms; hardwood block (Afrormosia) in pathology laboratories and hardwood strip (maple) in the physiotherapy gymnasium; terrazzo in treatment and sluice rooms, etc.

Heating generally is by means of low temperature hot water embedded floor panels, boosted where necessary with ceiling panels or, in corridors and extremely exposed rooms, by steam convectors. Theatres and some other rooms are air-conditioned, but not refrigerated. Heat is circulated by means of a steam main serving steam to water calorifiers for heating and hot water services.

Electrical and telephone services run inside wall ducts in double partitions adjacent to corridors or on external walls under the windows. Press button and illuminated call intercommunication is provided between rooms and waiting spaces and control stations. A personal call 'wireless' system is provided for selected staff. Generally, services to lower floors are run in walkways under the floors and services to upper floors are run in spaces above false ceilings in the floor immediately below. Services rise vertically into the rooms by means of the double skin partition adjacent to the corridor, which has access panels on the corridor side.



upper ground floor plan



lower ground floor plan

key

upper ground floor

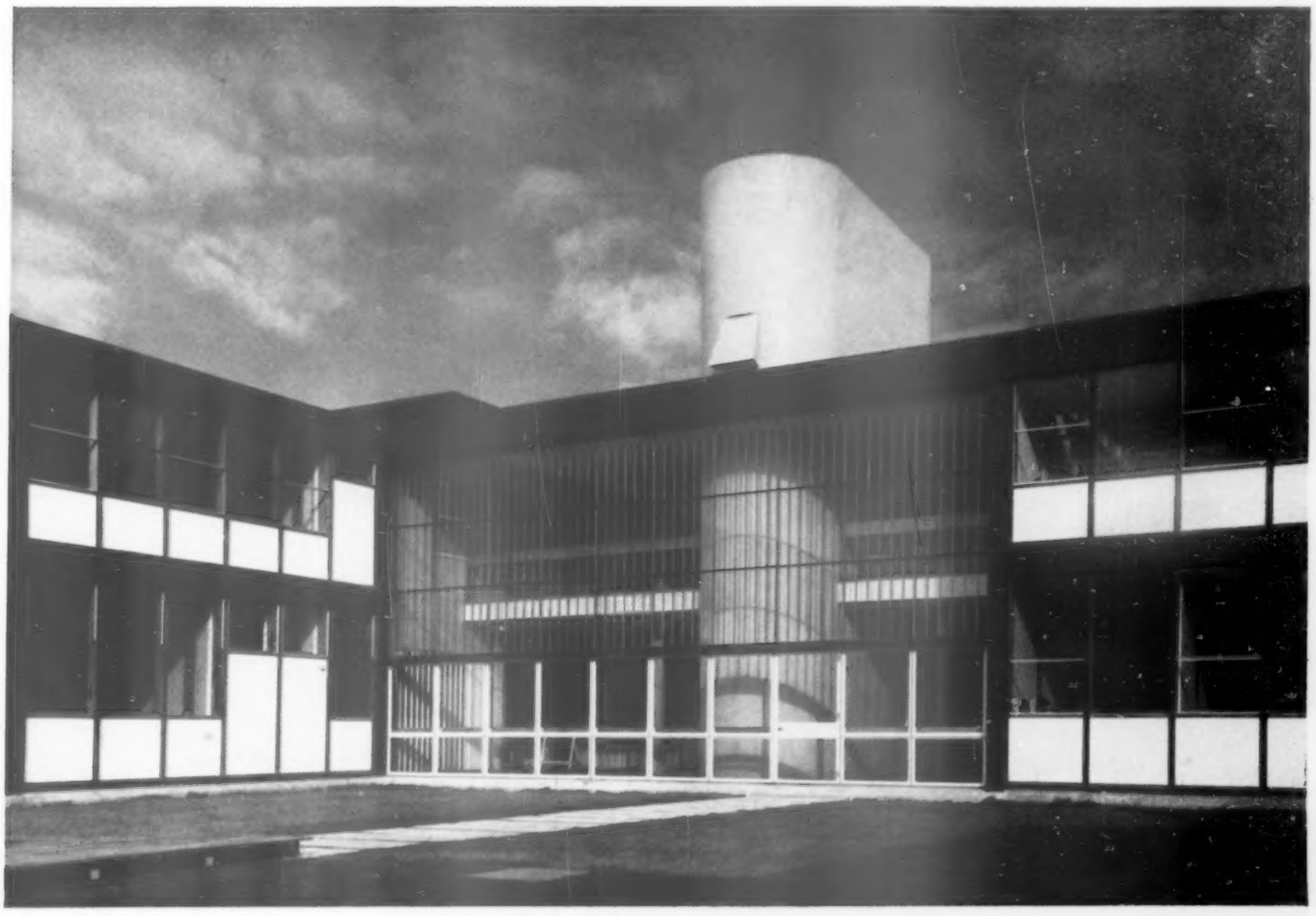
1. ambulance entrance.
2. casualty entrance.
3. treatment rooms.
4. minor theatre.
5. plaster room.
6. waiting.
7. reception.
8. counselling.
9. consultant.
10. health visitor.
11. pram store.
12. out-patients' entrance.
13. entrance hall.
14. reception.
15. garden.
16. almoner.
17. ophthalmic clinic.
18. medical clinic.
19. ear and dental clinic.
20. dental surgery.
21. garden.
22. mortuary unit.
23. single bed ward.
24. six-bed ward.
25. four-bed ward.
26. day space.
27. ward kitchen.
28. treatment.
29. lower entrance hall.
30. gymnasium.
31. changing.
32. sports room.
33. sunlight room.
34. wax treatment.
35. treatment bath.
36. occupational therapy.

lower ground floor

37. transformer.
38. calorifier.
39. mortuary corridor.
40. boilers.
41. stores.
42. sterilising.
43. X-ray.
44. viewing.
45. radiologist.
46. post-mortem.
47. laboratory.
48. pathologist.
49. formalin.
50. orthopaedic theatre.
51. major theatre.
52. sterilising.
53. trolley bay.
54. anaesthetic.
55. terrace.

7

7, from the west: the superimposed Physical Medicine and Pathology Departments on the left and the Operating Department on the right, showing their stone-faced podium. 8, looking across the raised terrace between the two departments.



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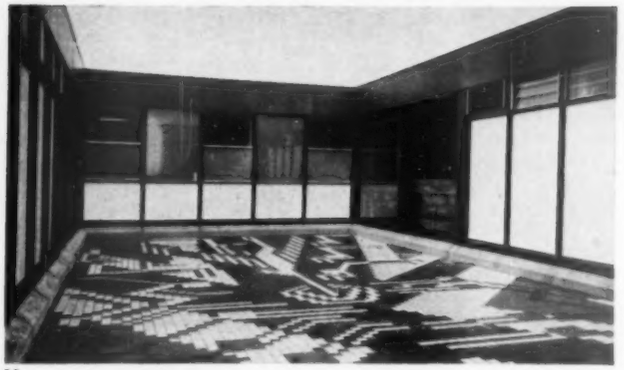
HOSPITAL, SWINDON

Above, the two sides of the temporary ward-block (later to accommodate offices), below which is the X-ray Department. 9, the outer side; looking across the terrace towards the Physical Medicine and Pathology Departments; 10, the inner side, with the Casualty Department on the right. 11, the small tiled courtyard within the Casualty Department.
12, 13 and 14 (facing page), in the sunk garden between the Outpatients' and Physical Medicine Departments, closed by the animal house (left in 14). The paved passage leads to the mortuary exit.



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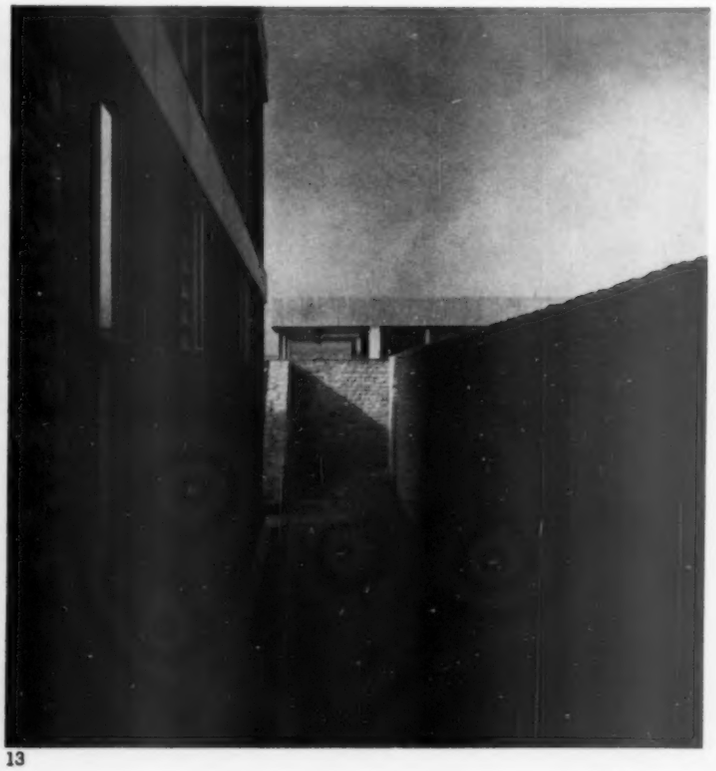

13

The garden court enclosed by the Outpatients' Department and seen from the entrance-hall. 15 and 16, by day and night, the latter with the water-spray working. 17, the pool seen from the windows of the hall.

15

16

17

14

18

18, the lower ground-floor entrance-hall to the Pathology and Postmortem Department. The curved lift shaft is shown externally in 8 (page 105).

19

20

HOSPITAL, SWINDON

The large Outpatients' entrance hall between the Outpatients' and Casualty Departments. 19, looking from the entrance (see page 102) towards the staircase leading down to the lower levels of the two-storey blocks. 20, showing reception counter on left. 21, looking in the reverse direction, over the staircase. On the right is the garden between the temporary ward block (with X-ray Department below) and the Casualty Department.

21

22

22, looking from the Outpatients' entrance hall (see facing page) into the garden and towards the ward-block.

23

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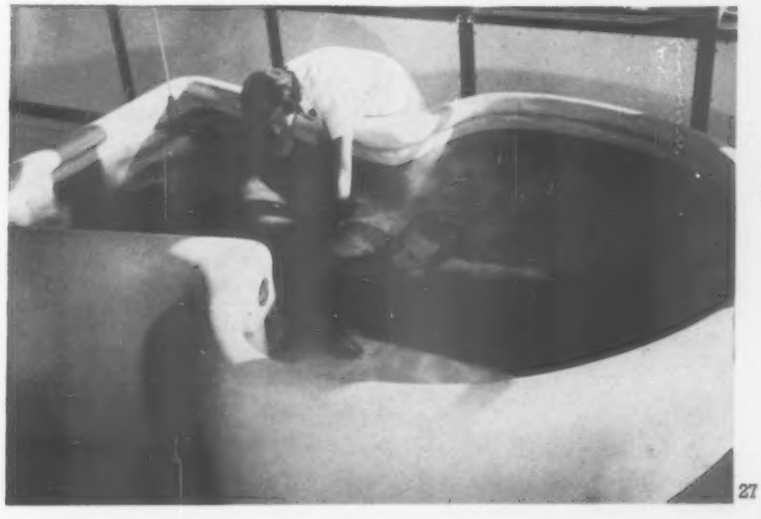
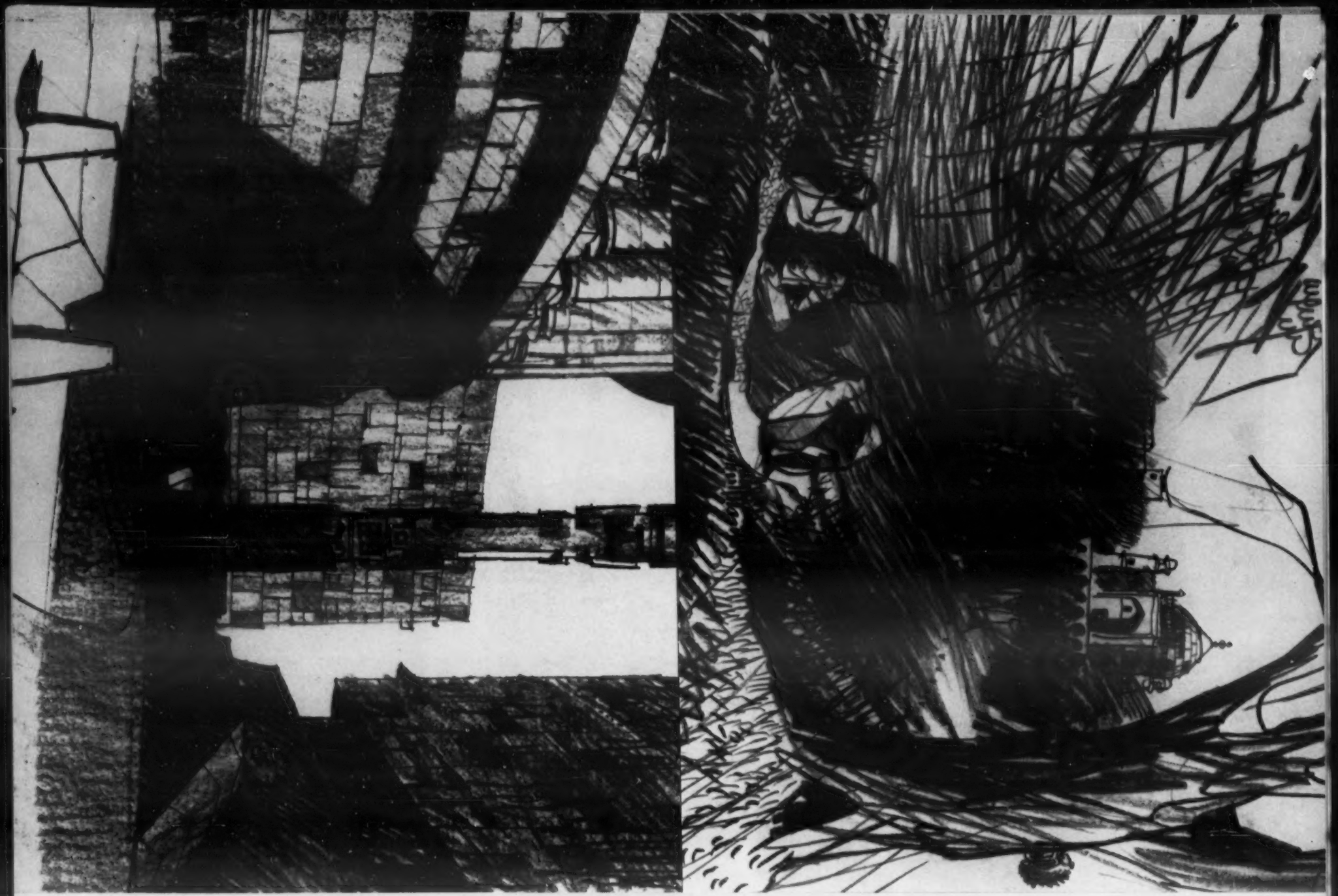


27

Some typical interiors: 23, a cubicle in a temporary ward; 24, a nurse's station in the same ward; 25, in the Casualty Department; 26, a ward kitchen; 27, treatment bath in the Physical Medicine Department.

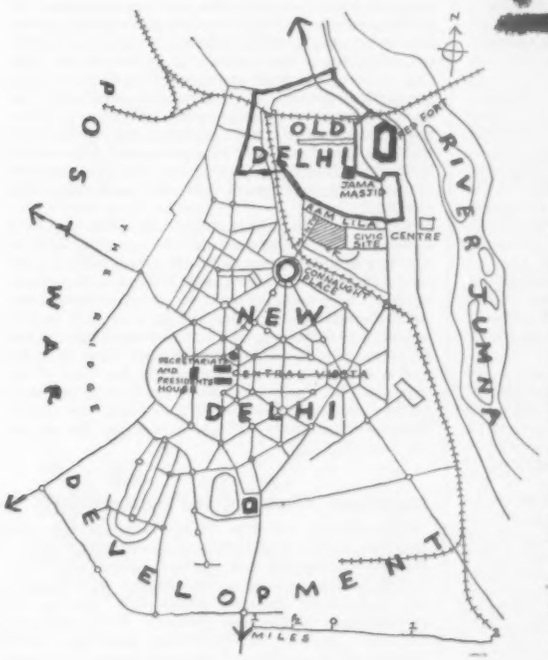


The metropolitan character of a new Parliament Square . . . . . contrasts with the foil of secluded parks.

Gordon Cullen

IXTH DELHI

Effectively there have been eight Delhis in the last 900 years, most of them now but an outlying ruin such as Qutab or Tughlaquabad. Old Delhi (Shahjahanabad) and the Lutyens-Baker New Delhi bring the story up to partition. Today sees the birth pangs of the Ninth Delhi, the capital of the Republic of India. In Gordon Cullen's proposals for the capital the crystallization of a sense of place out of present confusion is advocated, as the drawings opposite witness.



The phenomenal growth of New Delhi, doubling since 1941, has brought to an acute point the problem of organizing this largely uncontrolled and sporadic growth into a significant and viable pattern. The Town Planning Organization of the Ministry of Health is engaged in this work and, more recently, the Ford Foundation set up the Delhi Regional Plan Consulting Team in Delhi to assist the TPO in the preparation of a plan for presentation to the Government of India. The resident American planner, Edward G. Echeverria, has been able to call on specialists in the various aspects of modern planning, the senior consultant being Albert Mayer, the American architect and planner. The Civic Design consultant is Gordon Cullen, whose preliminary report is here published in precis. This report is, of course, but one facet of the whole master plan and ideally should be read in the all-embracing context of population study, regional forces and pressures, industrial potential, the balance of government and commerce and the machinery of planning which will make this unique plan an all-India prototype.

Owing to the pressure of space it is largely impossible to give the reader a description of Delhi and the region, but it is hoped that something of the background will emerge from the report.

Delhi in the Region and in Time

Delhi is a comparatively new town with little industry and yet already it is showing every sign of creating wasteland or Subtopia which does not feature in the recognized landscape categories.

Unlike many cities of the temperate zones Delhi is not surrounded by countryside, countryside in the pastoral or bucolic sense, countryside as an emotional contrast to the crowded and packed metropolis The landscape around Delhi is occupied, irrigated and cropped. If it is not irrigated it is a desert. It is an open-air factory with villages every 1½ to 2 miles. It is flat. Sometimes you can see four villages in one view. It is a pleasant enough prospect but it does not provide the pastoral contrast; the winding groves and streams, the green bowers and solitary places, the well-loved picnic spots. In England it can be found as made by nature. In Delhi we shall have to create it. For Delhi is in this respect somewhat like a ship at sea which, surrounded by salt water, must carry its own fresh water with it.

Consequently I put forward the view that the acreage of park and in particular the Ridge, should be sensibly increased in the case of Delhi and that the park should become one of the great landscape categories. We thus have a rough picture of a built-up, compact city surrounded and interpenetrated by landscaped parkland, the whole unity fitting into the topography of the great continuity of villages. There is no wasteland —no compromised land.

But now we have to think of doubling the population of Delhi. (There are quite convincing reasons for this.)

There has been and will continue to be a revolution in transport. Whereas a hundred years ago it was the actual covering of distance that was laborious, today this is not so much the case. The difficult thing is getting on and getting off. Just sitting is no trouble but it is thus that distance is covered. Hence, distance, as such, is losing some of its relevance in planning. It matters little if we sit in a bus for ten minutes or fifteen yet this could mean a distance of four miles on plan. On this basis the new environment is released, in a

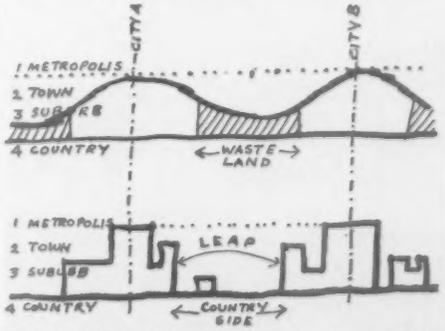
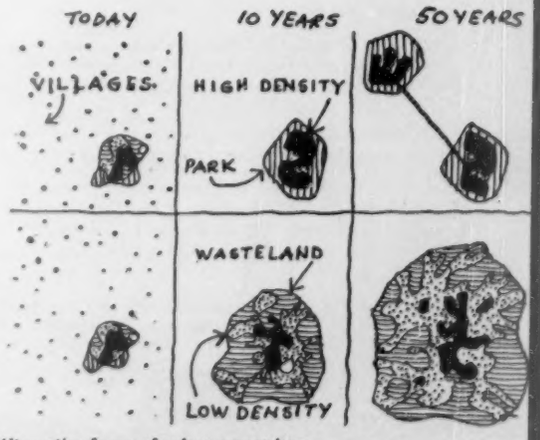


Diagram showing the effect of modern transport on landscape structure.

sense, from the crawling of a snail to the leap of the grasshopper.

We appear to be moving away from nodal points to a thinly spread coast to coast continuity of people, food, power, and entertainment, a universal wasteland.

If everyone is leaping in different directions then we simply turn the whole country into a



Alternative forms of urban expansion.

chromium plated chaos. But let us, for the sake of argument, postulate that a town shall have an edge and at that edge the countryside begins. Is there any reason why this should not be so? Man is liberated in space which means he is able to overcome obstacles of distance. That being so a town can have an edge. If the planner puts forward an obstacle it simply means at this point everyone suddenly starts jumping in the same direction which turns chaos into an *event*.

The planner is to that extent liberated, for by tapping the iron filings of spaceman into a magnetic field he is able to give leg-man, the pedes-

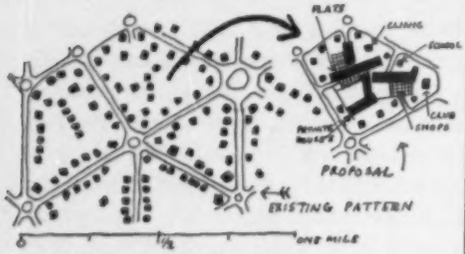
trian," freedom to move unhampered and a lucid environment to live in and that is the core of the situation.

Here, then, in the consideration of Delhi in the region and Delhi in Time we have tried to get rid of the pernicious habit of undifferentiated sprawl going on month after month and year after year. Instead the idea of the establishment of landscape categories which differ one from another and so serve to refresh the human being is put forward. We have tried to suggest that growth taken place in controlled spasms as complete entities.

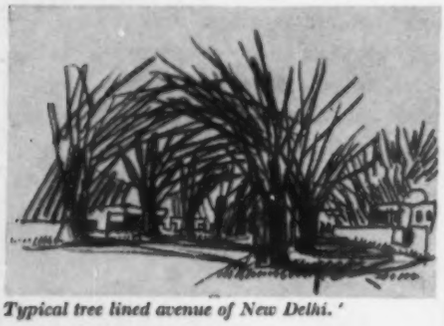
If it is found that Delhi is going to expand over 5 million then start a new town thirty minutes and 50 miles away in the continuum.

The problem of residential New Delhi

New Delhi was not designed as a city but as an extremely grand housing estate for the officials of the occupation. It was, literally, the last word in Civil Lines. A slight elevation in the plain south



Existing and proposed patterns.



Typical tree lined avenue of New Delhi.'

of Old Delhi, Raisina Hill, was chosen as the site of Government House and the Secretariats. From this three green arms spread out; to the north leading to the hospital, to the south to the residence of the C-in-C and to the east, the Central Vista, to the War Memorial. On either side of the Central Vista lay the bulk of the residential bungalows charmingly distributed in arcadia. This area is now the subject of our consideration.

Apart from the full blooded but somewhat boring Beaux Arts street layout the total effect is fine. (Most of the avenues are aimed at some remote architectural feature which keeps popping up again and again saying 'Cuckoo! I'm here.' It's like using an anti-tank gun to shoot a rabbit.) The avenues are broad and spacious, the trees arch over the road and the footways and grass verges have the kind of informality one might expect in a private avenue leading from the Gatehouse to the Great House in an English county. The traffic intersections are usually quite spacious tree-planted roundabouts picked out by the white-painted post and chain detail of the eighteenth century. The presence of houses is not insistent for they are widely spaced and well set back behind low brick walls painted Delhi red. Intersecting the main roads are the service roads which have much of the look of an English lane. The whole effect is charming. Quite apart from this the presence of so many trees serves to make New Delhi at least ten degrees Farenheit cooler than Old Delhi in hot weather.

Old Delhi: three hundred years ago Shah Jehan created Old Delhi. It was the Civil Lines of his day and inside the protective wall lay the two great monuments, Jama Masjid and the Red Fort. Also there were the spacious homes of some hundred noble families. As time went by the gardens were built on and traders encroached on to the streets, they established squatters rights and the process began again. Today Old Delhi is one of the most congested pieces of urbanism in operation.

With this lesson from the past what is to be our attitude towards the anachronism of New Delhi? Can the Capital City of India afford to preserve the present aristocratic density or are we to accept this density as a desirable normal and develop a huge, sprawling Delhi in which two storeys is the average height?

Quite clearly the centre of Delhi must be made available to many more people and the question is really how best to do this, not shall it be done at all. What we must avoid at all costs is the piecemeal encroachment that ruined Shah Jehan's Delhi and is now in the process of ruining Lutyens's.

The problem is fascinating. What we are faced with is an inversion of the landscape categories. The suburb, arcadia, is not on the edge of the city, it is right in the middle. And not only do I think that the present road layout is an investment which cannot be discarded, not only do I appreciate the fact that the abundance of trees reduces temperature, the fact is I like it. Why should Delhi copy other cities? The scale is not suburban, it is imperial.

A glance at the map shows how the road layout creates a number of sectors At the moment villas are reached from the main avenues and the central portions of the sectors are occupied by servants' quarters and other low-cost housing. (In fact it is incredible that in the centre of the sector nearest Parliament or the Secretariat there is a mud village with painted walls.)

If, therefore, we start operations by developing the sectors from the centre outwards we have enough space to build intensely urban cores of flats, shops, schools, cinema and other interesting buildings without disclosing our hand to any significant degree.

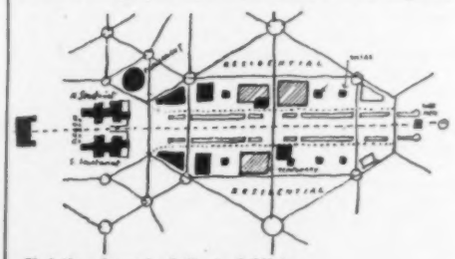
The next move is to regard the whole zone as a precinct and develop the roads to the east and west as the main through roads. This will reduce the pressure on the green avenues.

In this way the usual order of things has been inverted, instead of built-up traffic routes with shops and houses on the busy streets contrasted to green gardens behind, here we have shady green and quiet roads with enclaves of jolly and vital urbanization in the interior. It is, of course, just the ordinary precinct system but in this case the circulation system has a powerful personality of its own, it is not just the space left over between the interesting bits, the precincts, filled from time to time with traffic. It is a powerful personality in itself (which will give life to the precincts by contrast) having great climatic and historical validity.

What is the alternative? As the pressure increases private houses on the avenues will be converted into blocks of flats, shops will appear in the interstices, the Central Vista will become built up and isolated with museums and Government Departments, traffic will increase and roundabouts will fail to cope. In a few years there will be built-up streets with a few mangy trees in them and a heterogeneous wasteland in the core of the sectors. The waste of natural landscape resources in this kind of development is obvious, the streets become unbearable and the centres of the sectors are wasted.

Central Vista and Parliament

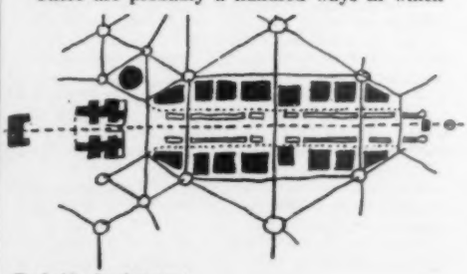
The length of the vista from Rahstrapati Bhawan to the War Memorial is nearly two miles. Its effective length and width is infinity since few buildings are more than tree height. The function of Delhi has changed since this design was crystallized. Delhi has changed from being an imperial capital to becoming the democratic capital of a republic. I am not much concerned with symbolism, what interests me is the fact that with the withdrawal of the protective government class, who doubtless would have kept Delhi as it is in perpetuity, the capital is now exposed



Existing layout of Central Vista.

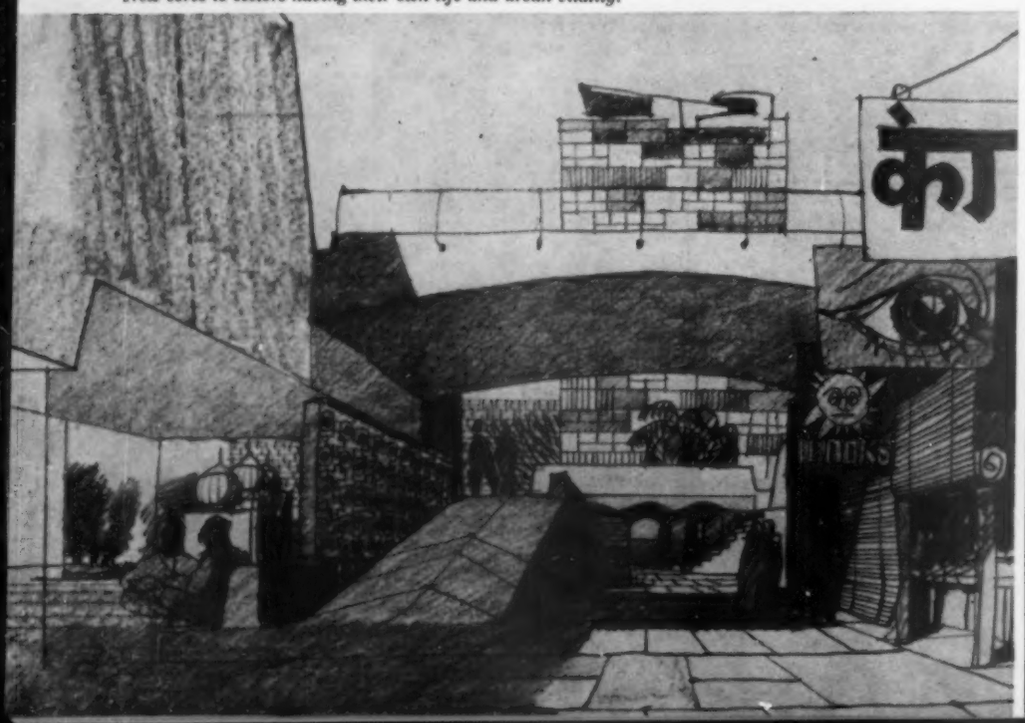
to the pressure of expansion. Densification is inevitable and welcome. The only difficulty that arises is how to weave this into the existing heroic pattern and not make the whole thing look silly or suburban, or just a colossal bore.

There are probably a hundred ways in which



Probable development.

New cores to sectors having their own life and urban vitality.



Gordon Cullen: IXth DELHI

the area might be developed but here let us be concerned with two.

Firstly, what is now happening. The simple and obvious method is to line both sides of the vista with six-storey buildings or buildings of bulk in place of the present villas or bungalows. These buildings to be Government offices or public buildings. This process has started at the west and is moving east. It is therefore what in all probability will happen. Against this development I put the following arguments.

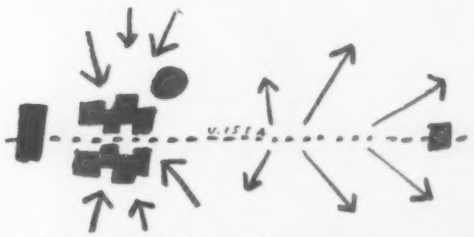
Too much reliance can be placed on the axis or vista to save the situation. The axis is not enough to pull the twelve separate buildings into life.

Again, if all the buildings in the complex, secretariats, parliament, etc., are to be separate and placed in their own settings we shall never get a city. We shall simply get a forest with buildings in it. This is safe; it is like those papier mâché containers for carrying eggs but you will never get a decent omelet that way.

In any examination of the Central Vista area the stresses operating on the site should be taken into consideration. In my view there are two distinct landscape forces at work.

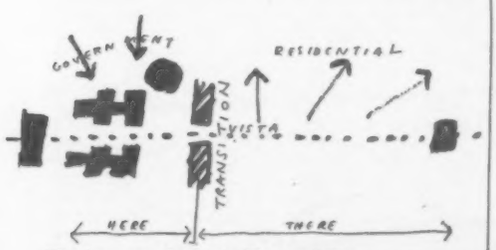
1. At the western end there is an inward thrust aimed at the two Secretariats and Parliament. Parliament Street bears down from Connaught Place (with its commercial and business potential) and the natural accretion of government floor space will be concentrated in this area.

2. From approximately the middle of the vista to the east there is an outward thrust which is generated by the parklike landscape of the central vista linking with the Beaux Arts planting of the residential zones to the north and south. (These residential zones will be subject to densification and in this case it will be desirable to maintain the volume and extent of landscaping as a foil to the high density urban cores.)



Force diagram of Central Vista.

The plan, therefore, begins to look like this. There must be a point along the line of the vista when the inward forces will give way to the outward forces and the discovery of this point becomes a key task. Since the essential view is the view of the vista then we must take as our standpoint the view from the Secretariat. What we wish to create is a division of the axis into two parts: the Here of the government complex concentration and the There of the landscaped

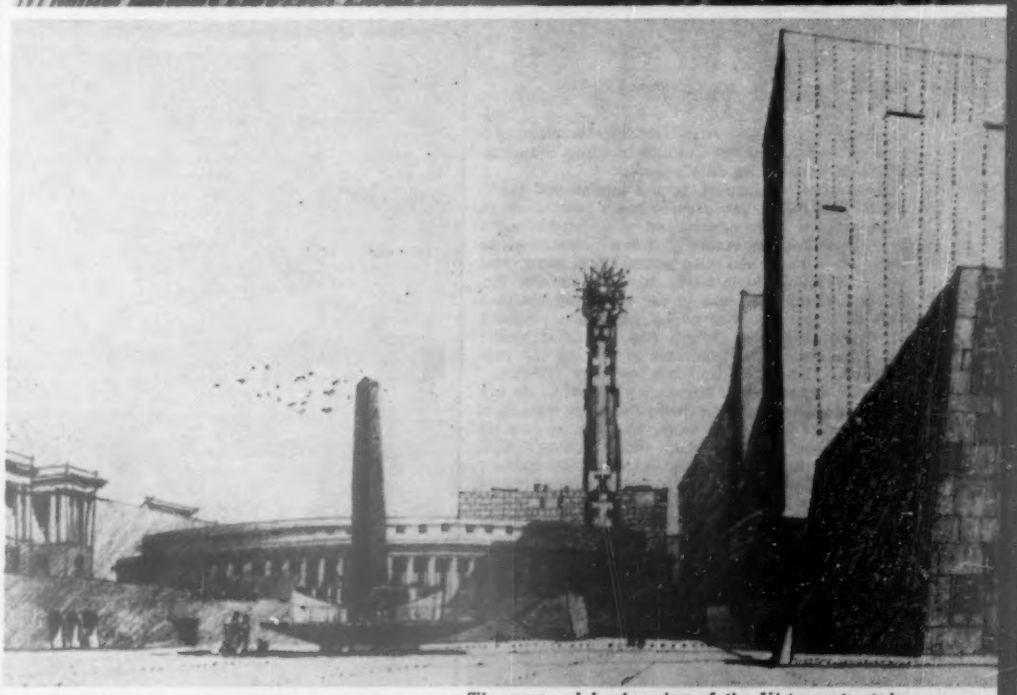


The forces resolved into Here and There.

areas. Owing to the working of the laws of perspective the division of a straight line into two parts of the same visual weight will not be achieved by dividing the line into two equal pieces. If we did that the nearer half would dominate to a ridiculous degree as the diagram shows. In fact we shall be wise to make the division close to the plinth of the Secretariat.

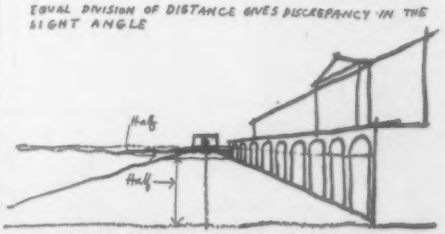
Based upon this division of space we must now create the two localities, the metropolitan locality of government and the landscaped locality of the vista which is its foil.

Any sense of metropolitan locality must be

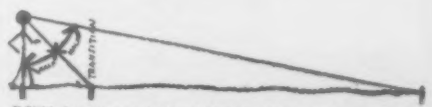


The proposed landscaping of the Vista contrasted to the new metropolitan character of the Secretariats and Parliament zone. The unifying plinth is shown as the space-creator. (*See also page* 110.)

EQUAL DIVISION OF DISTANCE GIVES DISCREPANCY IN THE SIGHT ANGLE



BUILDING EXTENDS HALFWAY BUT EFFECTIVELY GOES ALL THE WAY



EQUAL DIVISION OF SIGHT ANGLE BRINGS POINT OF TRANSITION CLOSE TO OBSERVER

generated by the existing block of government buildings which, at the moment, lies on its axis like a ship at anchor, alone on the water. It must extend its influence so that new developments will be homogeneous.

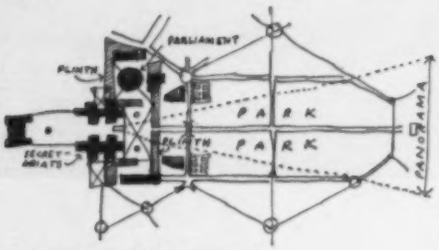
At the moment the ground in front of the building is neutral street, visually it is simply the base on which the buildings stand (the water on which the ship floats). In the process of creating locality, a sense of place, it should clearly belong to the Secretariat just as the forecourt of St. Peter's belongs to the Basilica.

Normally it is difficult to make additions to a building without the threat of spoiling the original conception. In the case of the Secretariat group, however, we find that the composition is basically that of pavilions set upon a red sandstone plinth and we can regard the pavilions as inviolable whereas the plinth can be added to without destroying the conception. If, for instance, we altered the direction of the plinth, if the plinth extended forward with two extending arms like two arms of a pier enclosing calm water, then we

would have extended the influence of the Secretariat block, the enclosed ground would belong to the parent building and the enclosure would be integral with the parent building

By the conception of the plinth we have released a unifying power, a creator of spaces and enclosure and any building erected on the plinth will immediately be in relation to the original pavilions. On this red, geometric base we can place, strategically, the new buildings; floating veils of pierced white marble. The actual manipulation of the plinth will be aimed at weaving the whole Government, Central Vista and Parliament Street complex into a coherent unity.

The plinth is hollow and in its dark labyrinthine coolness are the pedestrian ways and local haunts that the development will need. Here we can generate the drama of the interplay of light and

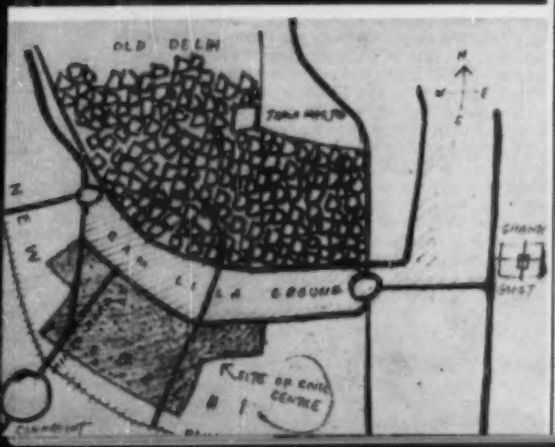


Proposed layout in diagram form.

shade of the cavern with internal fountain and pierced screen and beyond the blinding illumination and heat of the vast square.

Turn now to the foil, to the landscaped park. I find that it has two uses; it has a formal use in that it is the raw material out of which the vista is constructed and secondly it is a pleasant place for a stroll furnished with grass, trees, water and monuments. Unfortunately the formal use far, far outbalances the human use and I suggest that this be put right. Let us by all means preserve the central avenue which has its axial virtue and also its annual functions of staging the processions. But after that we can cry 'Enough.' Let the rest revert to human scale so that we can stroll at leisure through clumps of trees instead of rigid, never ending avenues, so that we can sit down by the gently curving, reeded water's edge, not the long straight tanks. Let us gently contour the ground so that the everpresent view of motor cars is, here and there, cut out. Let us so arrange the planting that monuments are revealed or enclosed to some dramatic purpose.

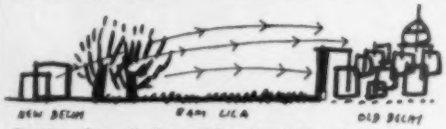
View looking from New Delhi to the commercial 'wall' of Old Delhi across the Ram Lila ground. Plan below.



The Civic Centre

The optical and emotional stresses at work in the area are simple but should be respected.

First we have the intense polarization of the capital city. To the north of the Ram Lila ground



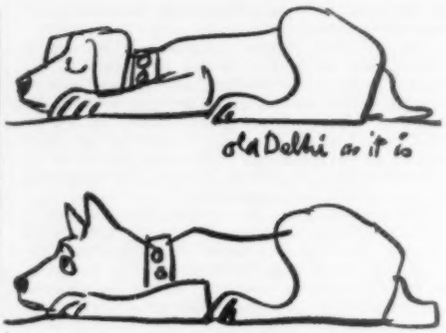
Section through Ram Lila showing optical forces.

is the Old City with its 1,000 people per acre, its slums and overcrowding; its noise, bustle and vitality, its bargaining and industry. On the other side, to the south, is New Delhi; spacious, leafy and quiet.

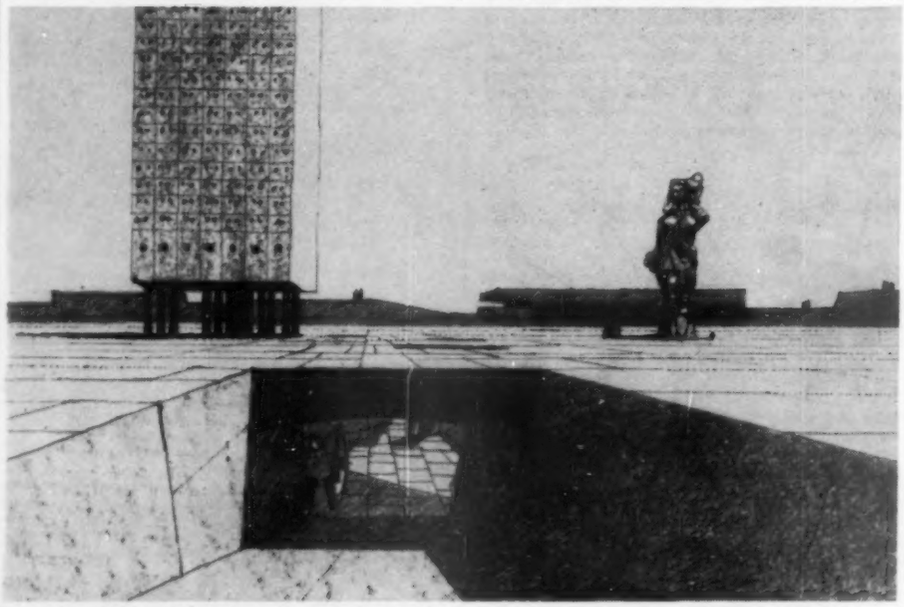
Were the two parts contiguous the contrast would be obvious enough but the hundred yards or so of separation dramatizes the situation. One literally bursts out of the jungle of New Delhi and sees across the open space the sun baked, uncompromised wall of the Old Town. It is a new commercial wall but as effective as the old wall.

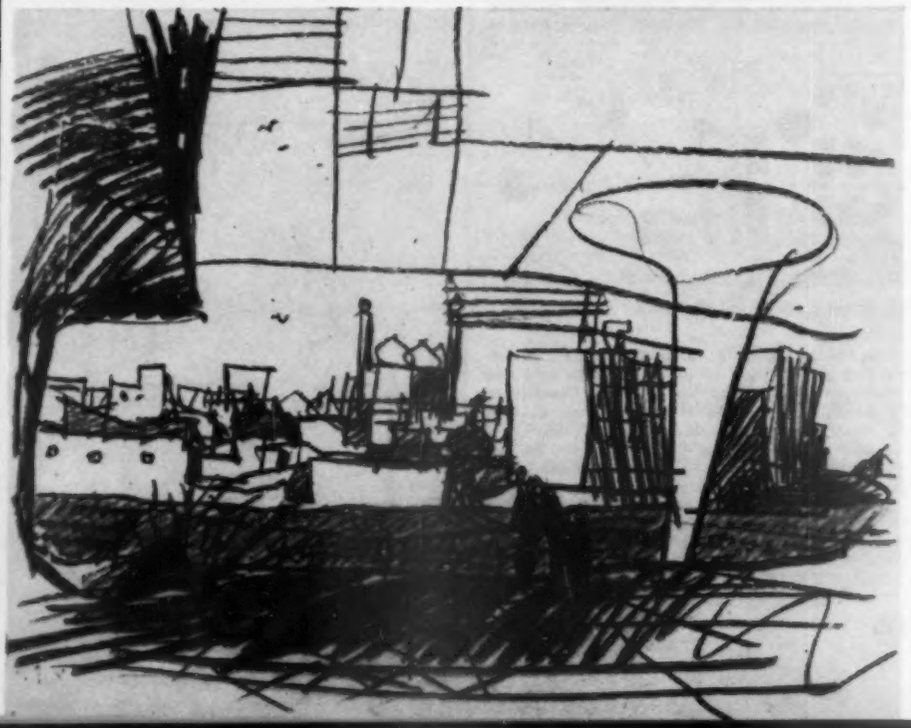
In this circumstance there exists a dramatic

Two views of the proposed Civic Centre.



situation. There is an awareness of difference running all along the facing edges of the two towns. The drama is generated from one side of Ram Lila to the other; not along it. It is vital to determine the role of the Ram Lila ground in this drama since it plays a key part. Lengthwise Ram Lila leads nowhere nor does it need to lead anywhere for it has no validity as an axis. It should appear to continue but not to lead to anything dominant (when the time comes for it to stop then, of course, it must terminate properly).





Neither is it an enclosure although to the north the wall of the Old City forms its edge and the avenue of trees performs much the same service to the south. To make it into an enclosure would be to create an identity, an identity which would, of necessity, superimpose its own personality on the actual differential. What in fact it is is not at the moment clear but let us keep it uncommitted for the time being.

Returning now to the Civic Centre it is clear that if it is to become the 'capital of Delhi' then it will have to dominate, it must do this in scale and sheer height as well as in content. On the other hand it will do this without absorbing either old or new Delhi, without absorbing or lessening the character and uniqueness of either, for this is neither necessary nor desirable. Thus we have a drama with four players, Old Delhi, New Delhi, the Civic Centre and the Ram Lila ground. Briefly we can imagine the Civic Centre as a cellular structure not isolated but attached to New Delhi. A lofty, hollow cliff forming the northerly climax of New Delhi and dominating the Old City by its size and proximity.

The dramatic situation has been created by the act of juxtaposing the Civic Centre and Old Delhi across the narrow green strip and all that remains is to exploit it.

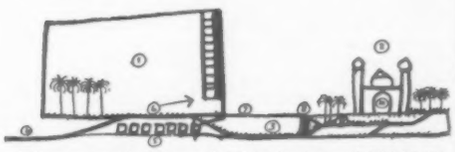


Diagram section through Civic Centre and Old Delhi

The drama is static, the situation frozen like two dancers, carved in stone. But on the ground, on the green strip we are free to move from one to the other because it penetrates north into the treeshaded courts of Old Delhi and south into the enclaves of the Civic Centre.

Ram Lila becomes the connector, the third person who performs the introduction but remains himself; who separates the two so that they do not loose their identities but who exists in both so that the whole drama can be experienced.

It is enlightening to compare the Civic Centre with the other two great focal points of the city; I mean the Secretariat and Jama Masjid. Both of these have one thing in common, their use of levels. Both are raised high above the normal road level and this bestows on them a distinction which is not only legitimate but exciting as an element in the structure of the city. What more natural than that the Civic Centre follows suit.

Imagine, therefore, a raised couryard, a raised public space contained by low walls. From the outside it is provocative, something to be attained, its surface is invisible and it has authority.

Placed upon this raised public space will be all the buildings of the centre arranged to form enclosures and subdivisions of different scales and complexity to suit the various functions.

To fully understand the nature of the Civic Centre study the development at ground level. This area, the roof of which forms the raised platform or concourse, will be devoted to a variety of purely utilitarian uses such as storage and car parking, but its main use from our point of view will be for public circulation and access to shops, cafés, gardens and the civic buildings. Here, lit by incisions in the roof, will be the cool, vaulted grottos, green with shaded plants, the underside of the vaults dancing with the reflected sunlight from pools and fountains, here will be shops and cafés. Access to this ground level activity will be from all the surrounding roads in a normal matter of fact manner so that in many cases the entrance to the Civic Centre will be effected by simply climbing a few steps and emerging from the shaded and enclosed world of the troglodytes out into the middle of the vast, sun baked geometry of square and prism. For this is the people's capital; we do not want monumentality, the formal approach, the wrot iron gates and the whole municipal bag of tricks. Instead we want immediacy, drama, scale and fluidity of movement.

In the square stands a clump of trees and you walk over to it. It is the outpost of Ram Lila which has unobtrusively ramped up, crossed the Circular Road and is now standing invitingly cool and shady. Follow down to the landscaped park and across to the courtyards of the Old City. In this way we try to weave together all the elements of the environment, the vast vault of the sky, the inside and outside, great scale and intimate scale, anticipation and revelation; we juxtapose landscape elements so that in the end a rich, living tapestry is woven out of the relationship of simple things.

Rehabilitation of Old Delhi

There are probably as many views on what to do with Old Delhi as there are observers. Briefly I can see three attitudes:

(1) Leave it alone as much as possible. After connecting up the remaining houses for sewerage and creating a bit of open space where obsolete property collapses leave it to develop in its own inscrutible way.

(2) Pull the lot down and rebuild a modern city. It is too crowded and decayed. The streets are too narrow. It is hopeless.

(3) Put it right.

I am a put-righter. My reason is simple. It seems to me that here there is a unity and homogeneity between man and his environment which is genuine, it is worth something, and to pull it down would be wrong. To leave it alone when development is occurring all round it is to give it the death sentence. I feel we have to put it right. The sore points apart from the obvious ones of dereliction, slum property and sewerage concern

(*a*) Industry.
(*b*) Traffic.
(*c*) Overcrowding.

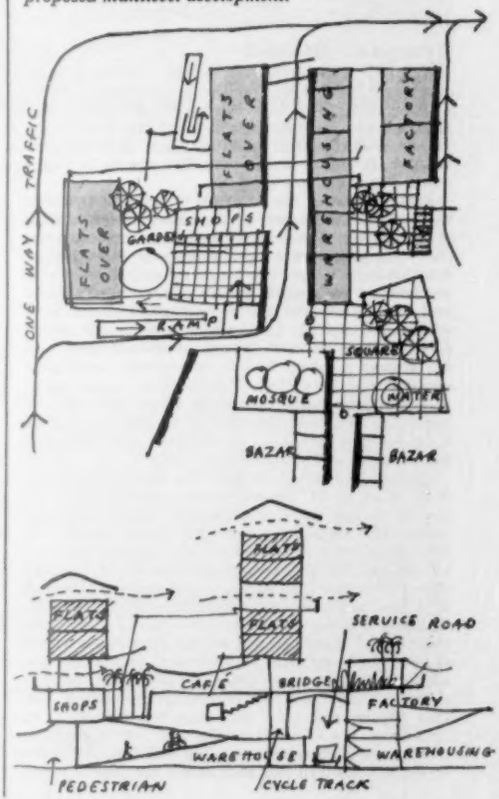
The average building height is, I am told, two storeys. In view of the position of Old Delhi in the capital of India and the land values this is too low and will crack sooner or later. Traffic conditions inside the old city are appalling. There are about twelve different road users: trams, buses, private cars, lorries, motorcycle rickshaws, bicycle rickshaws, tongas, cycles, bullock carts, sacred cows, pedestrians. The roads themselves, with one or two exceptions, cannot take two-way wheeled traffic. People who live inside Old Delhi and own motor cars are at some difficulty to know where to park them. Some form of traffic rationalization is inevitable even if that rationalization is to close the old city to wheeled traffic. Then there is the industry of Old Delhi, this is carried out with precision lathes and all modern tools almost literally on the pavement. On top are the houses. This picture does not include the shops and offices, the sudden stillness of the courtyards of mosques and the herds of buffalo.

In face of this what can we do except increase the height of buildings in the form of flats to relieve congestion, open up wider traffic routes and zone industry into proper rentable factories.

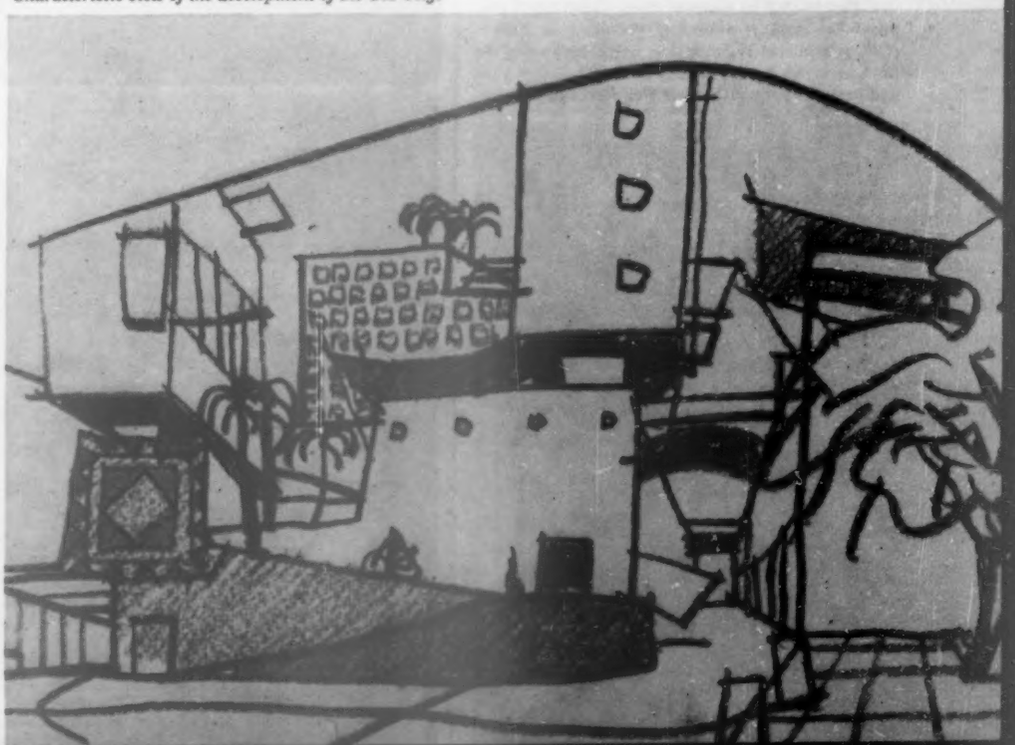
In this way I feel we would destroy a great deal of the homogeneity of the old city. By moving people from the ground up into the air in flats we disassociate them from the life of the ground. By widening the streets we turn people off the roads which are the life of the town; the roads become untenable. By grouping industry into factories we begin the disintegration of the unity, we take the men away.

You will say to me: All these things are common practice to you. You live in ten-storey blocks of flats, you go to work in the morning and come home in the evening. Your streets are full of cars. I know; I don't like it. I am not concerned with the preservation of physical things but the creation of an integrated community. It is significant that there is hardly any crime in Old Delhi.

Schematic plan and section of the old city showing proposed multilevel development.



Characteristic view of the development of the Old City.



I propose that whilst it is inevitable and desirable for the buildings to rise from an average of two storeys to an average of four the public circulation and recreational space be drawn upwards also so that the families in flats are not isolated from the ground. In other words, we plan in three dimensions, not two. We create an artificial hill town in which the different levels are unobtrusively linked by shopping streets which are, in fact, ramps.

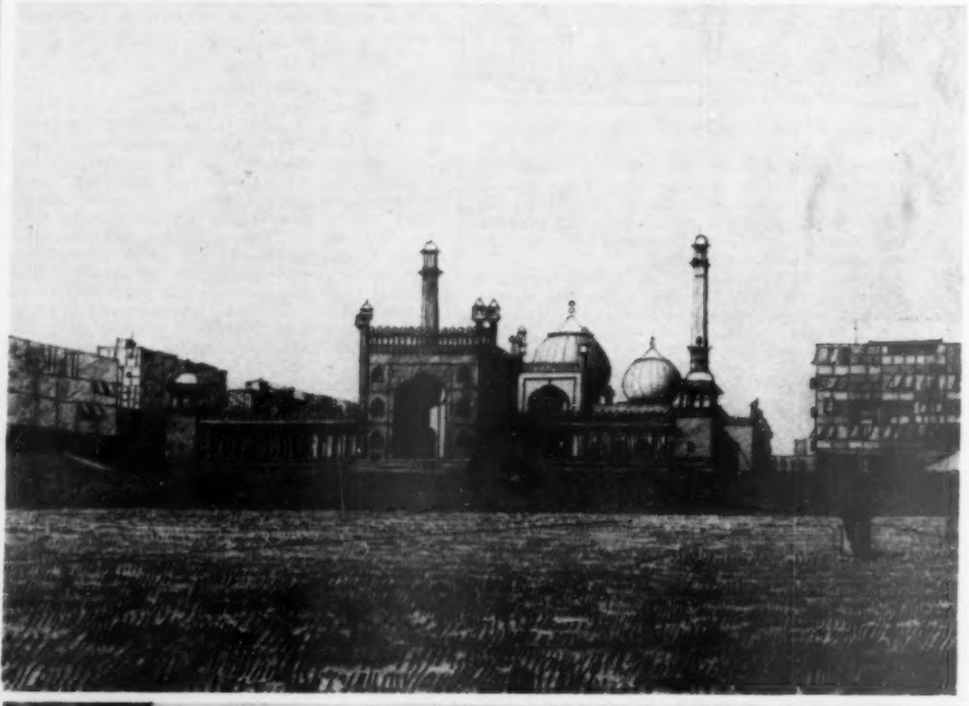
If, for instance, we create alternative levels of circulation then traffic will sort itself out. If, instead of zoning workshops to one particular place they are arranged at suitable levels then they remain efficient and integrated. Open space and recreations need not necessarily be on the ground. They can be twenty feet up, or higher, thus developing social life at different levels and tying all together.

Chandni Chowk

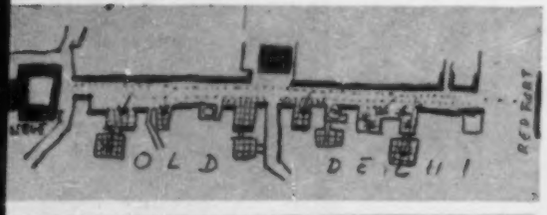
Chandni Chowk is the main shopping and commercial street in Old Delhi. Threequarters of a mile long it runs straight east and west between the Fatipur Mosque and the Red Fort. It has a dusty and faded elegance and colossal vitality. It is one of the very few streets in Delhi which has scale and incident.

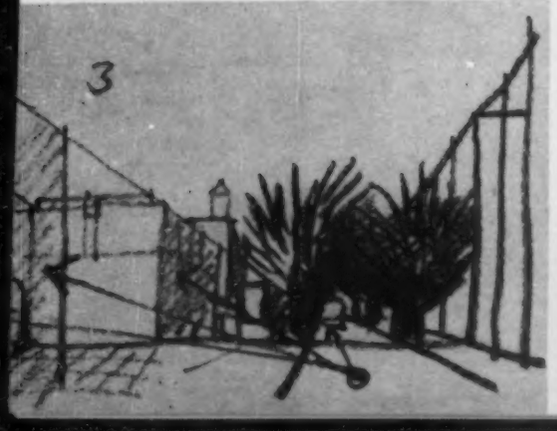
In considering the attitude of people towards their environment one of the active forces is that of possession. There is for instance static possession; the group of people sitting in the open in the favourite place. By tradition and usage there are usually recognized places of meeting in town and village. Second, there are those places which seem to precipitate the formation of groups, areas of viscosity such as shopping streets where people are always meeting friends or business associates and loitering for a chat. Thirdly there is possession in movement where someone might colonize or occupy a favoured line. Close to the parapet of a bridge, for instance, is one such line favoured for its view and immediacy.

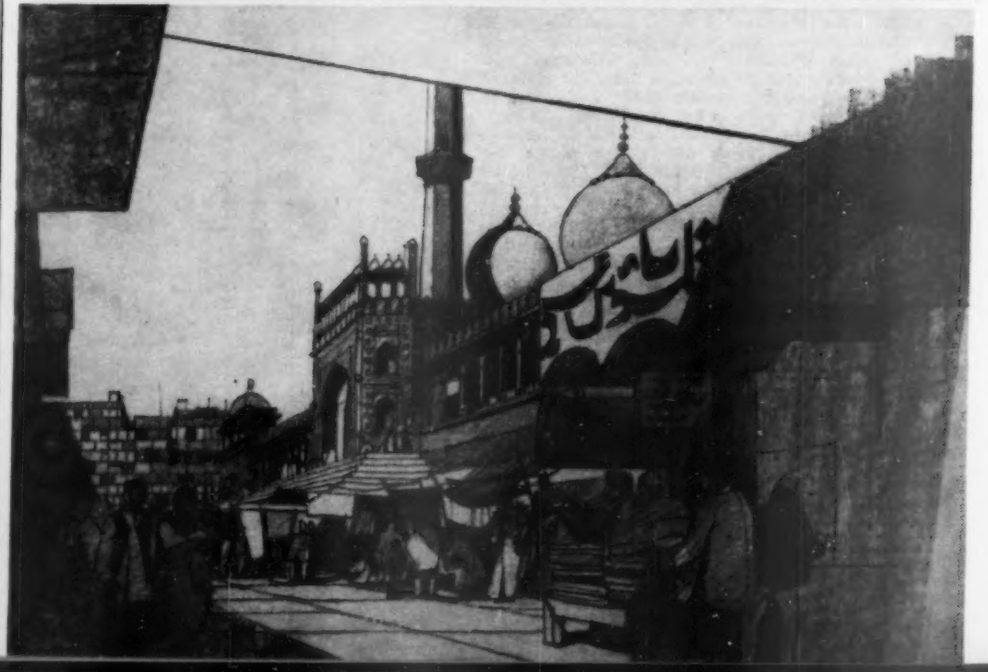
Chandni Chowk falls into the second category, it is a place of viscosity and consequently we should design for this behaviour. First then the somewhat ragged avenue of trees should be completed by new planting both for the welcome shade and for the fact that a tree is a vertical object; you can lean against it or put a seat round it; it becomes an aid to street sociability. Secondly, Chandni Chowk is a straight street, a corridor street, and this does not excite sympathy. What is needed is enclosure of some sort to provide the background for the group. The space needed could be obtained by widening the street but this would not give the required intimacy of enclosure. The solution put forward is to regard the north side of the street as a tall cliff but the south or shaded side as a cliff with caves. We do not widen



Top right, the new approach to the Jama Masjid and Red Fort unified by screened vista. Centre right, proposed landscape treatment of the Mosque. Bottom right, penetration to immediate neighbourhood of the Mosque reveals intense activity and trade. Below, plan and proposal for area between Red Fort and Mosque.







the street but where there is a derelict property it is removed and turned into an alcove, into a small courtyard open to the street with trees and shade if necessary.

Old Delhi consists of small streets and courtyards and the development proposed would penetrate to this level. It would be the precise opposite to Haussmann. This then is the functional disposition of the street.

The Jama Masjid and Red Fort

Jama Masjid, the great mosque, lies in Old Delhi but faces the Red Fort across a wide stretch of parkland. There are thus two main problems, first the siting of the mosque in the old town, the sort of enclosure and development necessary, and second the scenic possibilities of the mosque and Red Fort together.

There is little need to underline the concentrations of retail activity, the narrowness of street and alley and their crowding, the distracting noises and signs. What is so staggering is the minute concentration: there is, for instance, a row of booths in the shadow of Jama Masjid which is devoted to the motor car accessory trade. In one of these little boxes about five feet cube sits a cross legged dealer, a ray of light penetrates the roof. The box is lined, floor and walls, with speedometers, there must be about 600 or 700. After observing booth after booth of equal intricacy and concentration but of varied accessories the mind begins to boggle. In the centre of all stands the red sandstone mosque of Jama Masjid, the largest in India. The entrances, some 20 feet above the street level, are approached by steps rising out of the mass of stalls. On these red sandstone steps lie sleeping figures, some wrapped up like mummies. Contemplative goats recline there. On the top are families washing and sleeping. The floor is red with spittle You take your shoes off and go into the mosque and the miracle happens. Suddenly you are in silence, you are clean and almost alone in a vast open courtyard about 350 feet square. Instead of the smell of urine there is only the vast, pure blue of the sky. The courtyard, paved in red sandstone, is surrounded by open arcading on three sides and on the fourth stand the three domes and twin minars. Unlike a mosque at ground level you can see out of this raised courtyard.

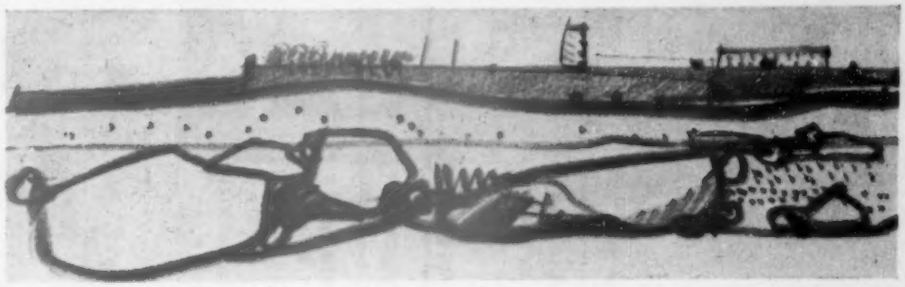
Turn now to the park. Here are two great monuments facing each other across a stretch of green which is bisected by the northbound road. The junction of the park and the Red Fort is clean, dramatic and immediate because of the moat which hides the actual junction and lets the undulating turf make visual contact with the red sandstone in a natural, almost calligraphic way. What we must do is to achieve the same contact of the turf with the Jama Masjid and to tailor the road into the park so that there is just one great continuous sweep of green uniting the two monuments across the great distance. I propose to do this by artificially ramping up the park slightly as it approaches Jama Masjid sufficiently to hide the market and give a clean, uncompromised edge, and by planting a screen of royal palms which will unite the scene into a great screened vista.

Consider the place of Jama Masjid in the internal disposition of Old Delhi. The first outstanding fact is the existence of this magic, elevated plane; this vast, quiet courtyard. Link this to previous proposals concerning the rehabilitation of Old Delhi, the advocacy of a multi-level development to preserve the integrity of the social structure, and the prospect is exciting. Can we but create public spaces at the same level as the courtyard, however tiny or distant, then the power of the courtyard will leap across the intervening space, across the noise and turbulence below, like an electrical discharge. Hence the gambit of raising the entry to the square from the Red Fort area so that access to the upper level is natural and easy. In this way, gradually we attempt to join and link and bring all the city into a significant relationship.

Neighbourhood Centres

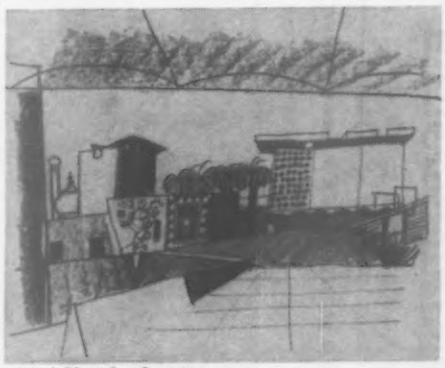
A lonely group of fishermen live in a savage valley in Spitzbergen. Their little houses cling to the indifferent surface of the great rock masses like lichen on a boulder tossed carelessly down a cataract a million years ago. In this vast desolation of naked rock, in the hopelessness and sterility they have their homes. Outside their homes they have erected posts on which cross pieces are fixed, these have no religious significance. As the fishermen come home the great wall of the valley dominates everything but as they walk on and come closer the crosses, the rough man-made constructions, gradually rise up into the silhouette and overcome the alien mountains.

It is in this perilous sense that man's home is more than economics, it is not only a roof but a cross raised up against emptiness and desperation and anonymity. If we can imagine a synthesis of the cross and the roof we are near to understanding the purpose and scope of civic design.

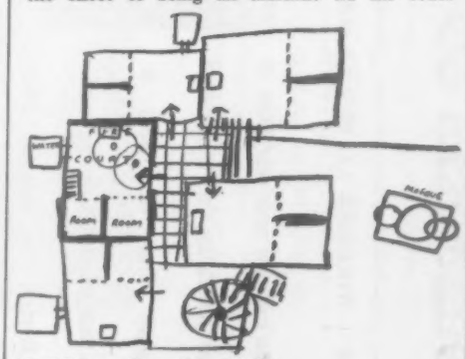


In the desert, the neighbourhood is encountered as sculpture.

It may seem odd to begin our account of a neighbourhood centre by describing the roads that lead to and from it but I want to try to put forward the idea of a centre as being a place, a locality, a personality, an object like sculpture encountered on the road. It is made of brick and steel, plaster and paint. The road we are on is one thing, it is a means of getting from A to B, it is not desirable or necessary to have it hemmed in with bazaars and ribbon development. The road should run through the belt of parkland free and uncomplicated but over there, out across the field is a white wall which appears to enclose a village. It isn't a village but it has that effect, the effect of being an incident on the route because the wall is not parallel to the road but obeys a different internal discipline. The road landscape with its sweep of turf, its trees and its rocky outcrops is one thing and the habitation is another. The wall varies in height and composition. Here it is windowed and clearly part of houses, there it is plain and we see palms and fruit trees over it. Gates and openings occur leading to the interior life which to us is still invisible but its existence is manifested by the towers and domes visible above the wall. We are here and it is There.



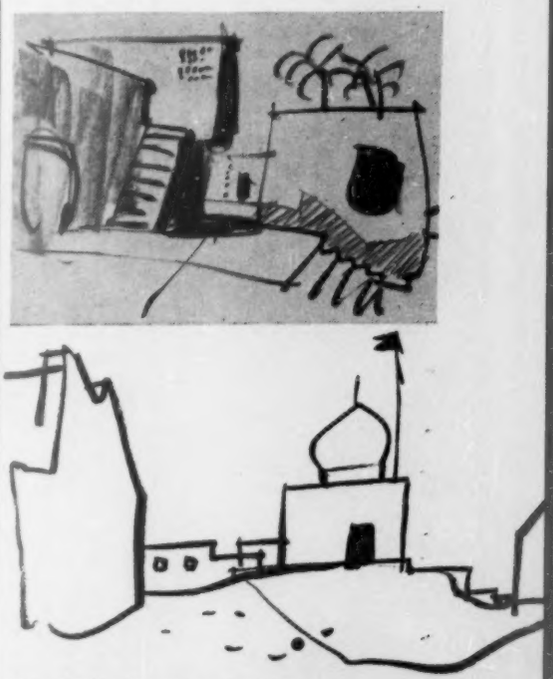
A neighbourhood centre.



Building up from place to place.

Suddenly the wall juts out at right angles and the road penetrates into the hitherto secret structure. We are in the civic centre, the seat of local government, of big shops, of factories and entertainment. This brief immediacy explains the habitation to us, it gives us scale, colour and vitality of the development. It is a nodal point in the journey for we can use the centre, stop and wander about, buy things and visit.

Now start again, start in a new house, one of the humble houses that go to create the habitation. We are here in a courtyard, it is open to the sky. It is the atrium and contains the door from the street, the fireplace, the shade tree or the means of shade, it contains a door leading to water and sanitation. Off the main space are a sufficient number of private rooms. This is the first and greatest of places, it is sky and fire, water and sleep, conversation and worship. The family ambience reigns inside the courtyard but open the street door and we enter a large space created by the walls of ten or twelve houses, it is a street but also a space which is collectively owned by the people who live round it. It is here that the family becomes part of the community because here they meet and chat and help each other. Perhaps several of these spaces will lead into a local centre with temple, shops and bus stop. In this way we build up from place to place, from domestic courtyard to the common ground of neighbours and from this to the places of commerce and business and trade. Yet all is kept integral, all has a sense of place and belonging right up to the civic centre itself.



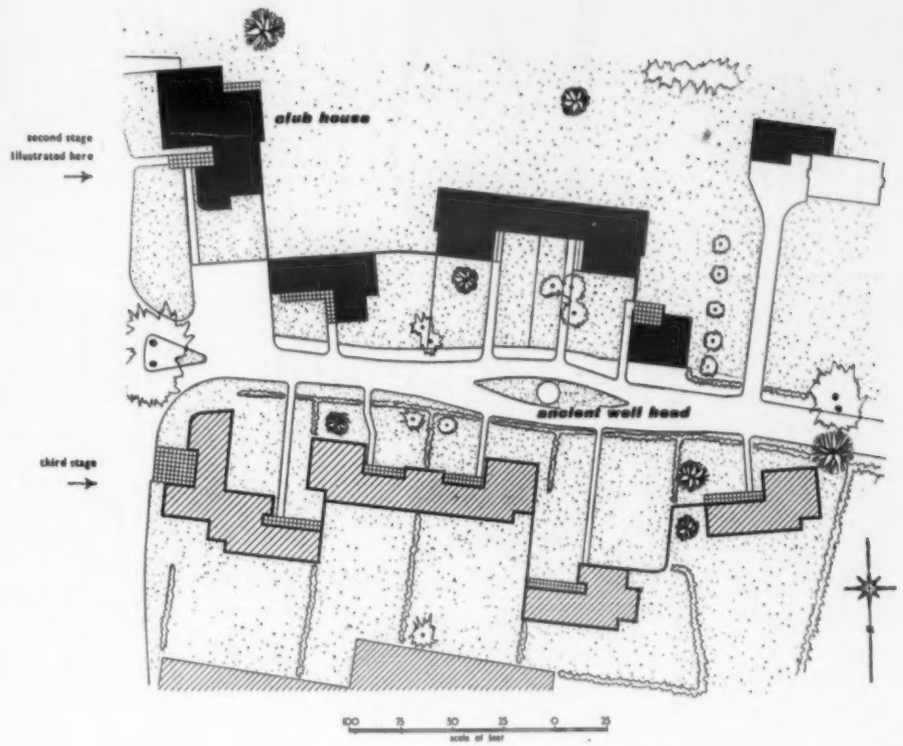
Two sketches of common ground.

REBUILDING OF RUSHBROOKE VILLAGE, SUFFOLK

ARCHITECTS | **RICHARD LLEWELYN DAVIES AND JOHN WEEKS (executive architect, Michael Huckstepp)**

The second stage has now been completed of the project for rebuilding, as a designed entity, this small village near Bury St. Edmunds. The first stage (illustrated in the Architectural Review for August, 1957) comprised two new houses just beyond the edge of the village, built as a pilot scheme. The second stage (illustrated here) involves the south side of the village street. The third stage, not yet started, involves the north side.

1, the centre of the village with rebuilt houses, on the right, and the old well-head.



Rushbrooke consists only of a church and about two dozen houses, nearly all occupied by local farm-workers. There is no public-house, but there is a club, run by a local committee, with bar, club-room and facilities for dances and whist-drives. A new building for the club, at the end of the village street, is part of this second stage, together with the demolition and rebuilding of four houses, similar to those forming the pilot scheme.

2, Rushbrooke from the air, showing the rebuilt group of houses on the far side of the village street, those to be rebuilt at the next stage on the near side and the new club building at the corner (partly behind the tree). The group of pilot houses, illustrated in August, 1957, are further along the road running off the left side of the picture.

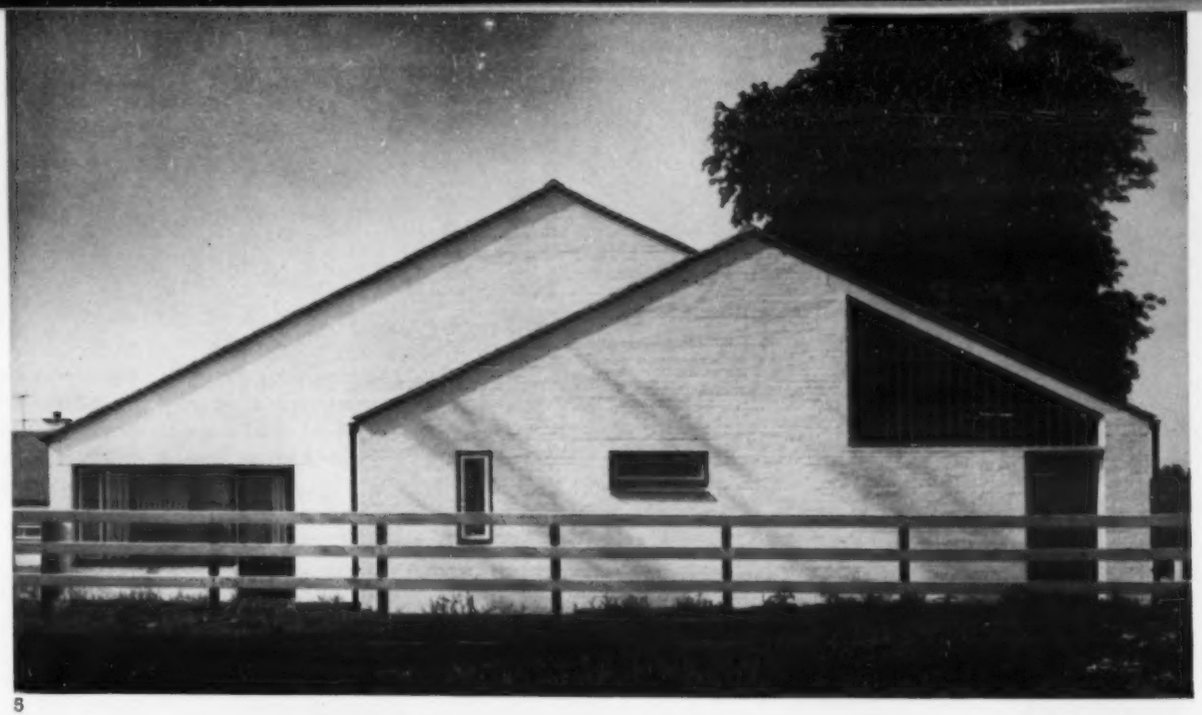
The buildings are connected by walls to form a continuous band of building along the side of the street. At the entrance to the village, the club building is set back, giving room for a small car-park. The club building is slightly removed from the core of the village as it is used by visitors from outlying cottages, some of whom come by car. The first house in the village is quite close to the road. Beyond this is the connecting wall and then the centre wall of the semi-detached pair of cottages recessed in succession. The space is then closed again by the fourth cottage which is on the edge of the pavement. The entrances to the buildings are all at right-angles to the road approach and are enclosed by wings of the building, to give a gradually increasing enclosure as the building is approached.

One of the houses in the new part of the village has the same plan as the two pilot houses first completed. Two other houses, which are semi-detached, have three bedrooms, living room and parlour and the fourth house has one bedroom and one living room. All the buildings are a variant of the architectural principles developed in the pilot scheme. A simple equal-pitched roof is used to cover each building, the plan of which is contained in a rectangle. Portions of this rectangle are cut away, sometimes right back to the ridge and sometimes to an intermediate point, showing walls parallel with the ridge, which vary in height according to their distance from it. In the case of the semi-detached pair of houses, the entrance is in a recess formed by the curved wall of the projecting bedroom and parlour wing, which is open to the underside of the roof. Each of the houses has a room in the roof which can be used for storage or as a children's playroom and each house has a storage shed enclosed by the main walls.

3, entrance to one of the semi-detached houses, with the curved wall of the parlour on the left.

4

The main room in the club building may be divided into two by a wall which slides away completely, the floor track being covered by a loose floor-board when the room is to be used for dancing. A free-standing fireplace is placed so as to define a small area within the larger part of the room for small evening gatherings. The ceiling of the larger part of the club room slopes with the roof. A window at the highest point in the room is glazed with red-flashed glass. Otherwise there is no applied colour. Brick walls are painted white externally. The fixed portions of windows are painted black with white opening lights.



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REBUILDING OF RUSHBROOKE VILLAGE

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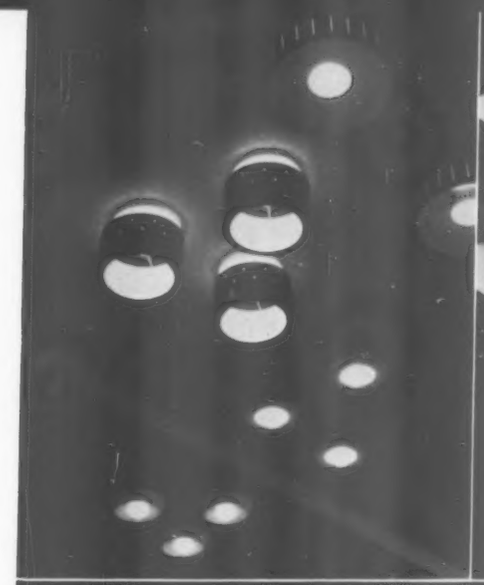
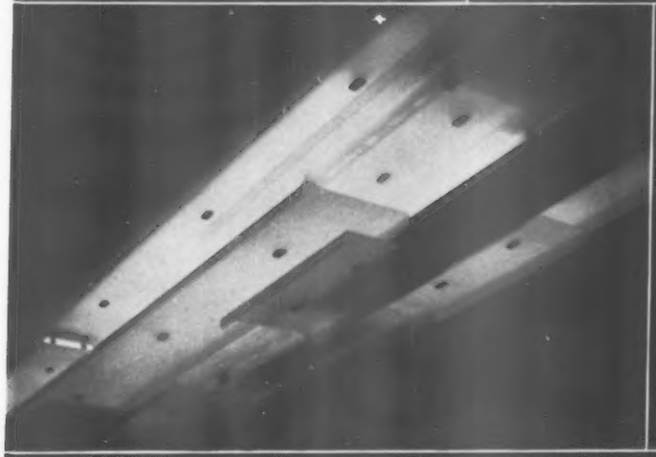
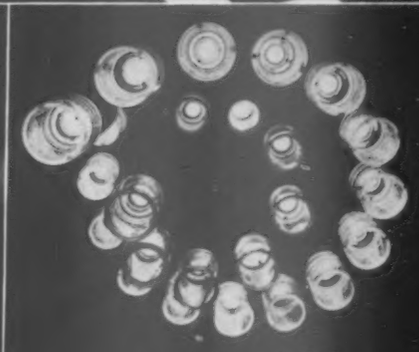
4 (facing page), the whole rebuilt village street taken by a panoramic camera (which distorts the foreground into a curve: the ends of the same straight roadway can be seen left and right).
5, the club building from the rear.
6, the recessed central portion of the group of new houses.
7, the club building from the entrance.







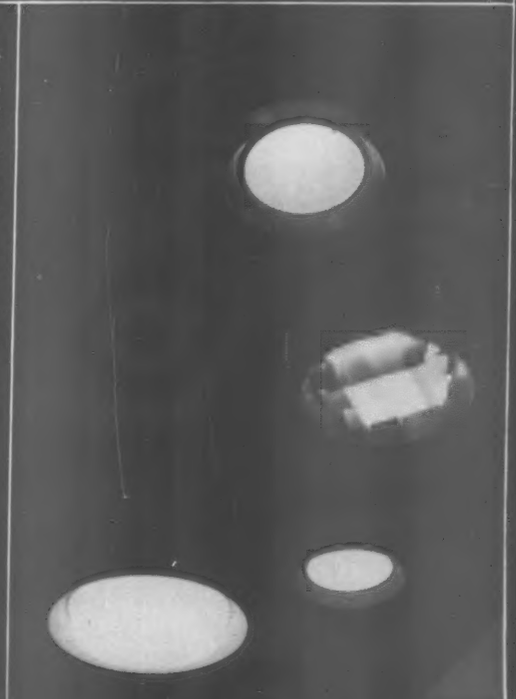
ID

a monthly review of interior design

Offices and Showrooms in Seven Dials, London

architects: Basil Spence and Partners
architects for lighting showroom interior: John and Sylvia Reid

Thorn House is the headquarters of a group of electrical companies, one of whose subsidiaries specialises in light-fittings. Apart from the great showpiece in the entrance hall (see over) the illustrations on this page sample the range of lighting techniques employed for display and special effects throughout the building.



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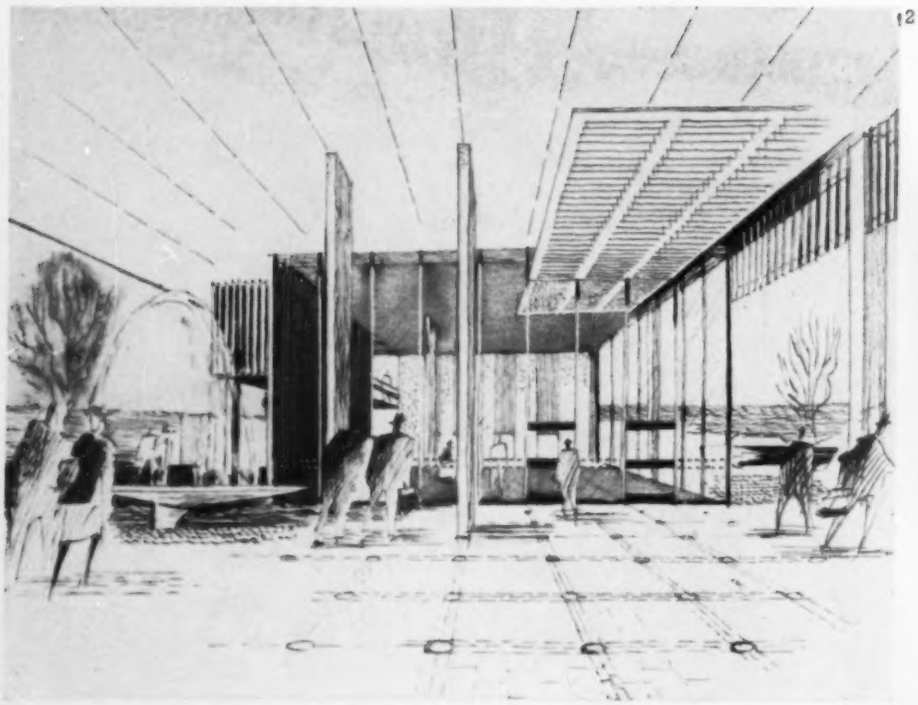
Thorn House | Entrance Hall

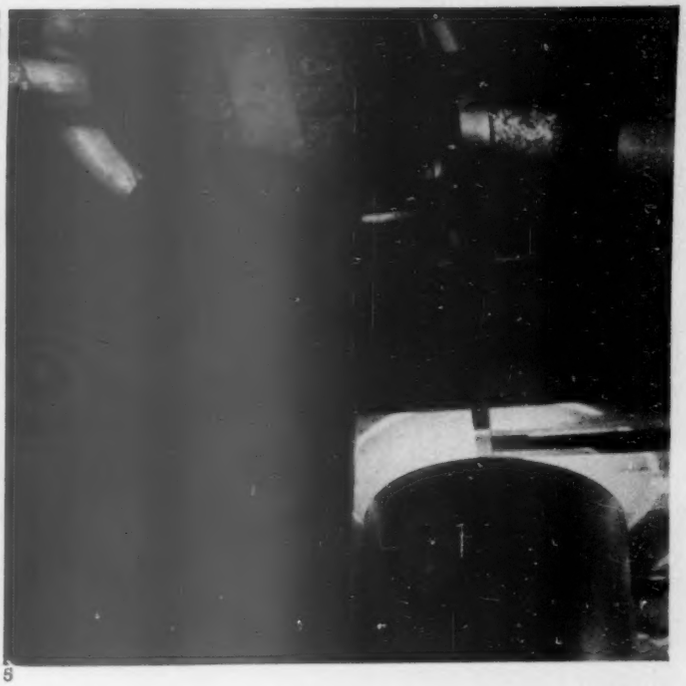
architects : Basil Spence and Partners



2

3

1, the entrance hall of Thorn House seen from the covered patio under the tower-block. The hall is a box with two walls of glass in dark bronze mullions, one rendered wall (left) and one faced in polished Derbydene marble covering the lift-shafts.
2, an early sketch for the patio and hall, by Andrew Renton, the partner in charge—the optical effect of the slatted canopy guiding the eye toward the lift-doors was replaced later by the processional grouping of the light-fittings on the ceiling of the hall.
3, the hall and patio seen from a window on the secondary stair (show-room side).



4 5

4. the light-fittings in the ceiling of the entrance hall—each shade is a cylinder, bent up from two sheets of metal (the material varies, copper, aluminium, etc.), leaving a narrow slot down the side, through which a certain amount of light escapes, to give glitter, and side-lighting to model the forms of the other shades.

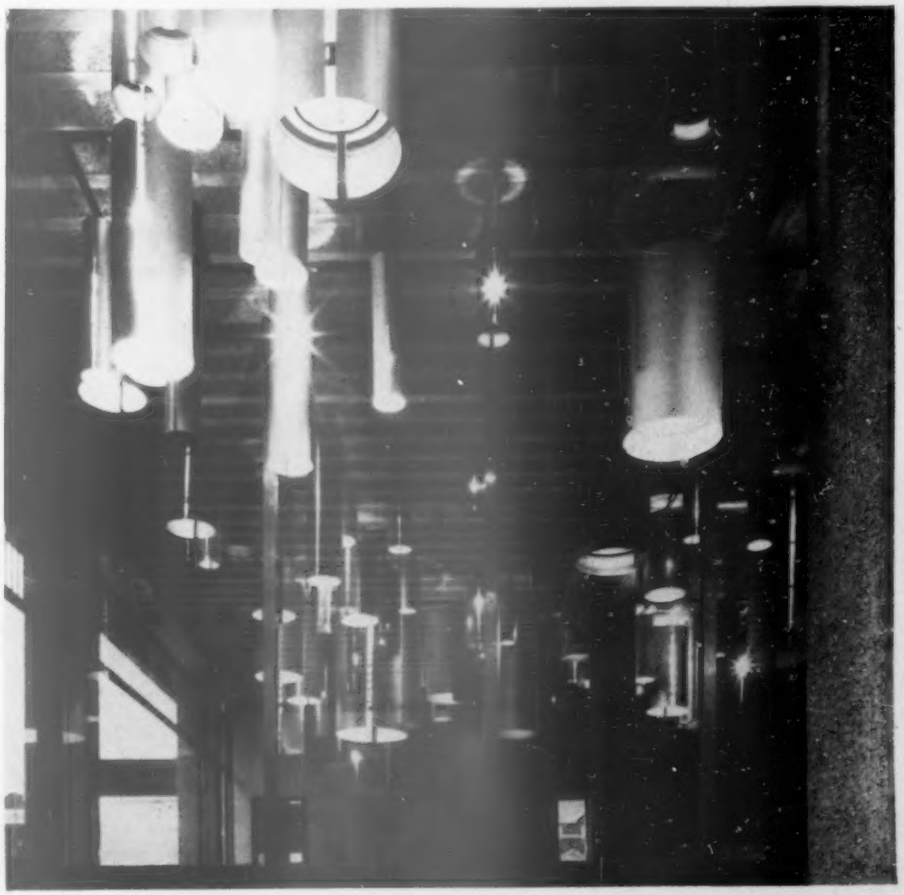
5. close-up of shades and ceiling—the latter is of exposed concrete planks with shingle-faced black concrete tiles between them. The lights are suspended from a grid of standard ducting carried by strap-metal hangers.

6. the lights, reflected in the glass wall of the entrance hall. This view gives, better than the view in the opposite direction, a sense of the 'processional' arrangement of the lights, and also gives remarkable testimony to the setting-out of the work—the reflection of the structural column corresponds exactly with the position of the real column beyond the glass, and not even the presence of reflected lights reveals any doubling of the edges.

7

7. view down into the hall from the same viewpoint as 4. The floor is of marble mosaic. The columns have an exposed aggregate finish, selected for its colour and texture, the exposure produced by the use of retardants applied to special formwork. The reception desk is of Kellymount marble carried on black angle iron legs, the seats are leather covered, their wooden frames cantilevered from the window-mullions.

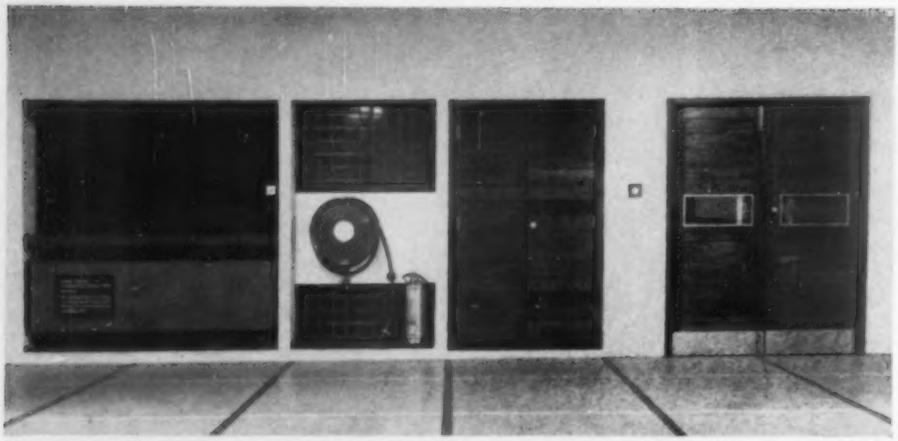
6



Thorn House | Standard Office-Floors

architects : Basil Spence and Partners

8



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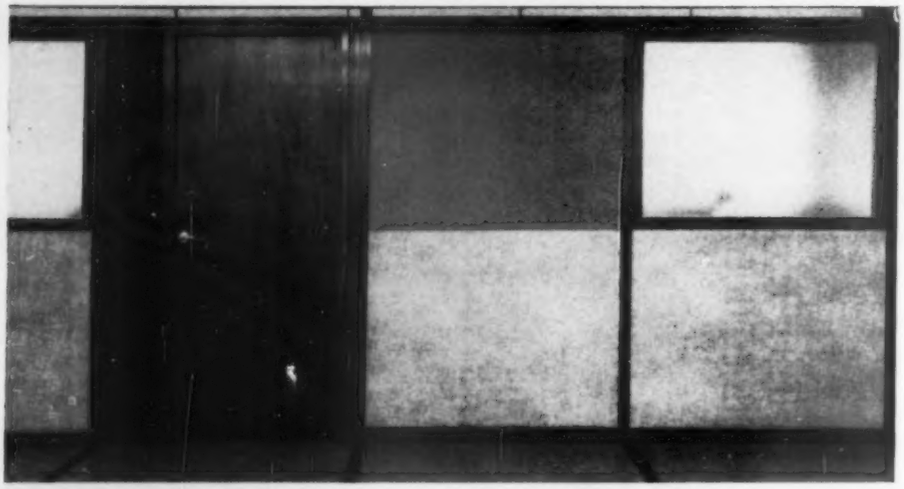

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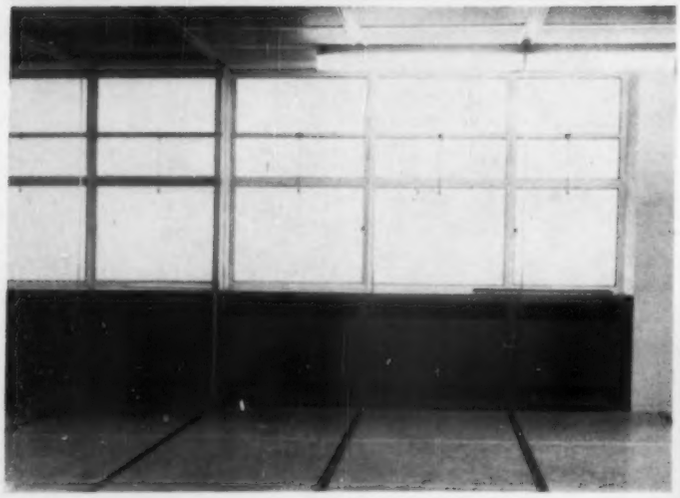


11

8, the standard office-floors of the main tower-block are identical above the first and are 'designed-empty' but fully equipped with lights and services. Ceilings (of removable perforated panels), lighting, service-outlets, fenestration and even the pattern of the floor-covering, all answer to a standard modular dimensional grid.

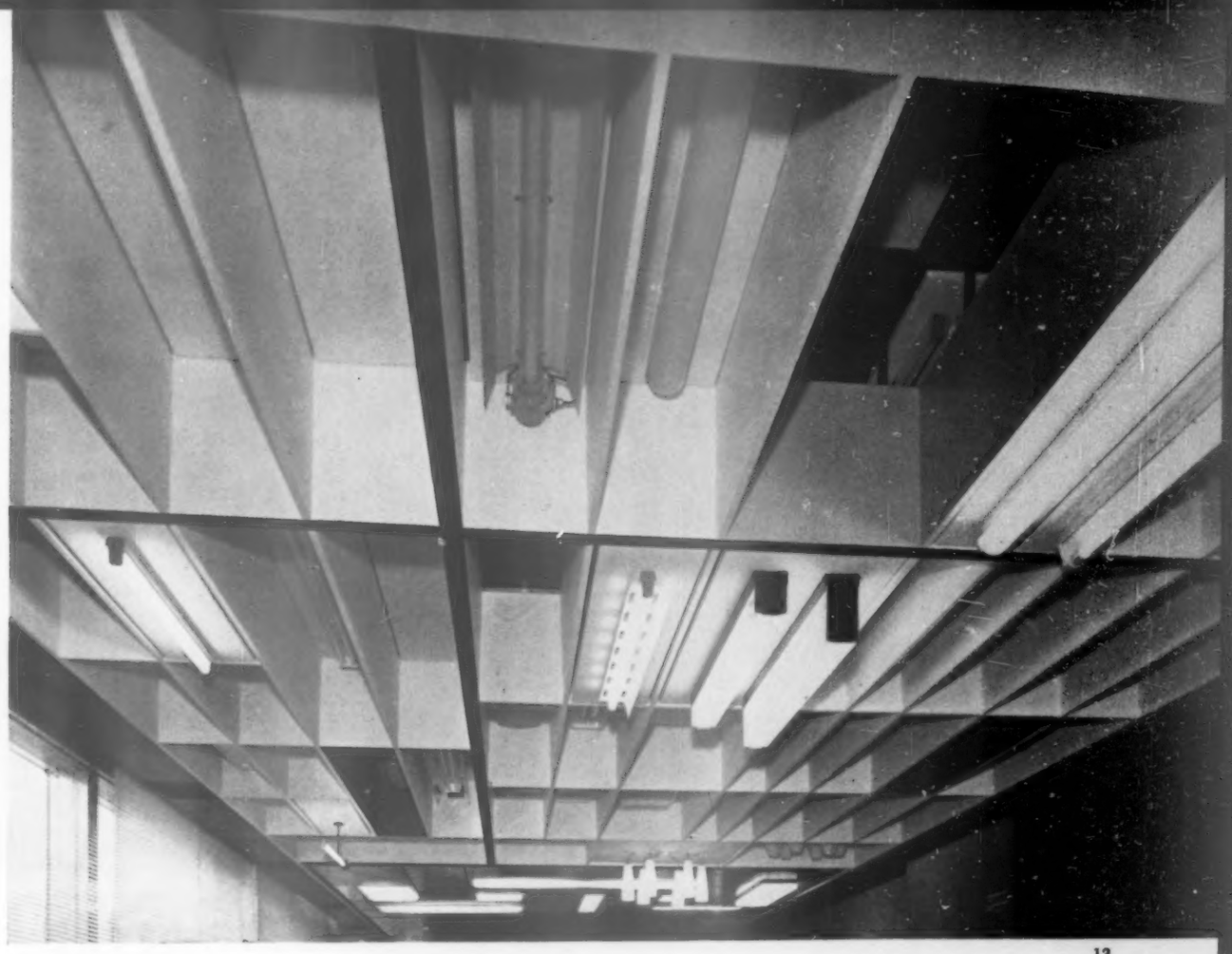
9, at the core of each standard floor is a standard group of services: these are, from left to right, pinboard and heater (this area becomes a corridor when the floor is partitioned off, and the radiator warms the corridor-space), standard fire-equipment station, access doors for vertical ducts, doors to secondary stairs—the main stairs are at the end of the block.

10, the standard partitioning, designed by the architects, is hardwood framed and answers exactly to the modular grid on floor and ceiling. The infill panels of the partitioning include, besides the door-unit and half-glazed units seen here, pinboards and standard filing cabinet or locker units.

11, on the window-wall the modular grid is interrupted by the structural columns and the mullions at half-span. Heaters run continuously beneath the windows and the venetian blinds are in modular lengths—hence the control rods by every vertical glazing-bar—and can be wound up above the level of the false ceiling, top left.

12, sign board facing the lifts on the highest occupied floor of the building —the executive twelfth. A similar panel, with lettering designed by Jock Kinneir, faces the lifts on all other floors. Two special light-fittings from this floor are seen on page 121—the chairman's room, top right, and the boardroom, centre left.

12

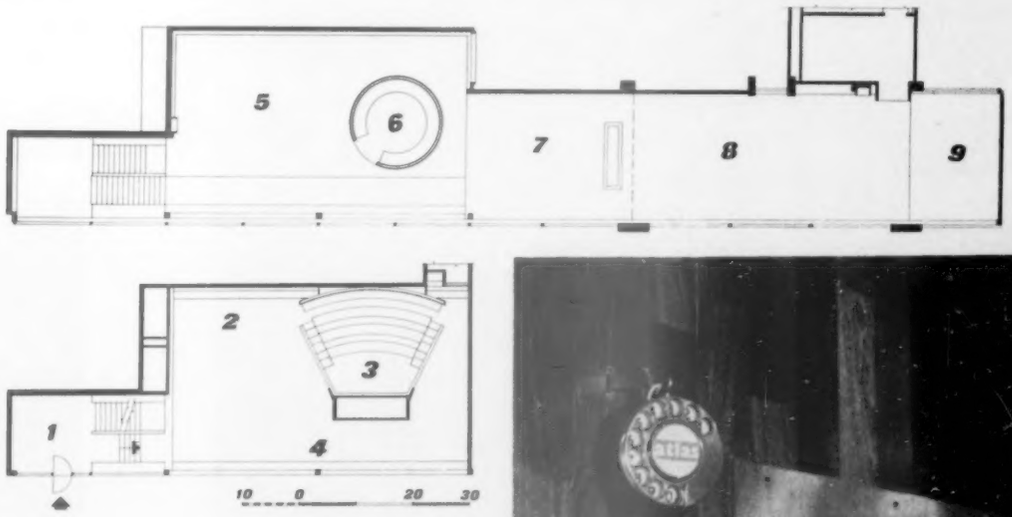


13

Thorn House | Showrooms

architects : John and Sylvia Reid

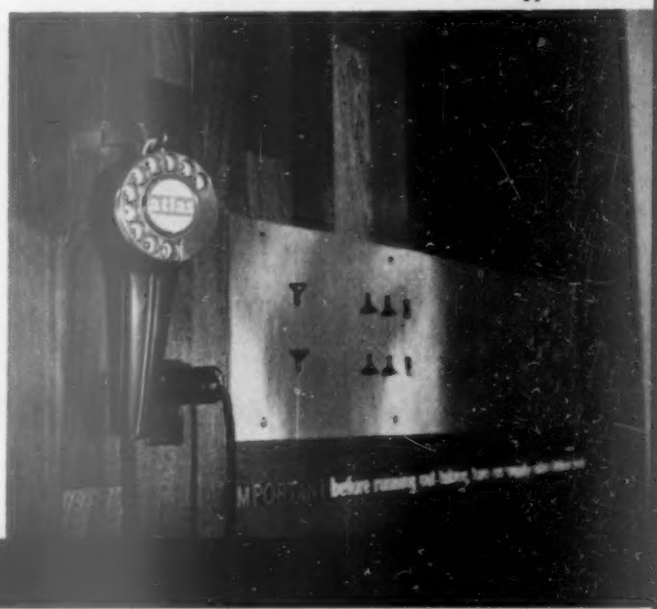
13, the overhead display of light-fittings in the upper showroom—all are contained within a deeply-boxed ceiling structure with motors and winding gear above, counter-balancing one another in pairs (as will be seen, top right, some have risen to balance the three fittings that have been lowered). Each fitting is on 'call' from the dialling-head seen below, 14, and the selection is effected through a computer behind the hardwood panelling in 14, while the dialling head may be wander-plugged at different points in the showroom.

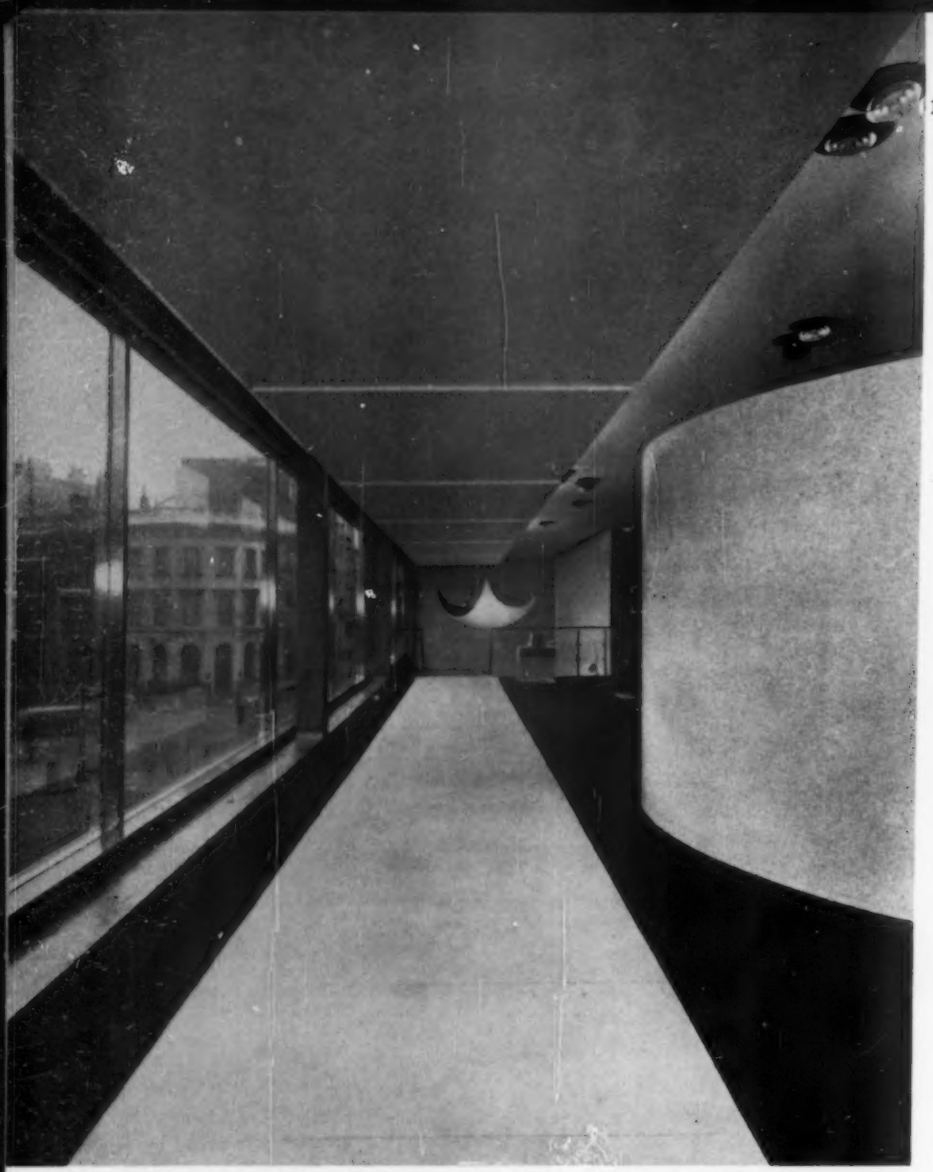


14

key

1, entrance, street level
2, cooker display
3, auditorium
4, display window
5, radio/television display
6, television rotunda
7, special demonstrations
8, overhead displays
9, street-lamp fittings





15

15, the white terrazzo path that traverses the sea-weed green carpet of the radio and television showspace on the upper floor—together with the matching panels of natural-grained fibrous plaster above it—forms, so to speak, a psychological corridor through the radio section to the lighting-displays beyond.

16

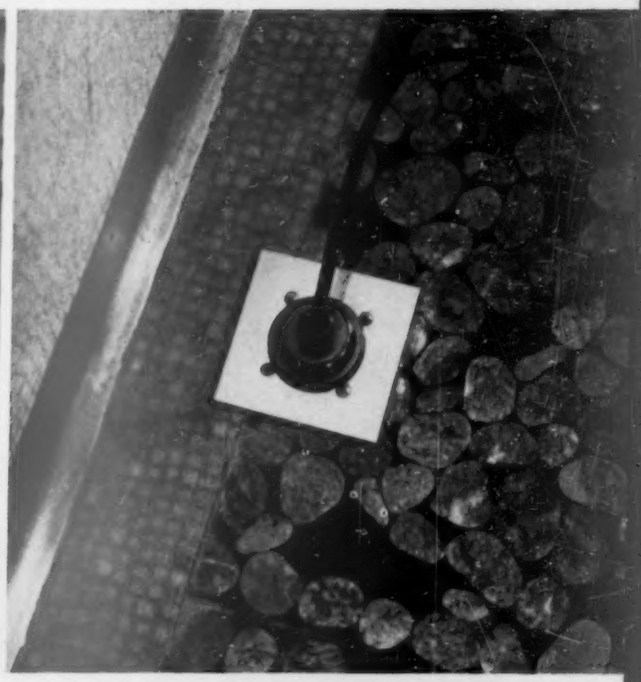
16, view into the television rotunda, seen from the opposite side in 15. The central floor of the rotunda rotates under power, enabling groups of seated clients to be brought to face different TV sets in turn.

17, close-up of stairs and balustrade. The treads are precast Z-shaped units, as shown, in reinforced terrazzo and bolted through the precast stair-beams, seen in 18 below. The balustrade is in satin-finish stainless steel, and armour-plate glass, with black PVC handrail.

18, the stairs, from the lower showroom; the suspended lighting-canopy is in fibrous plaster, studded with 24-volt bulbs in a random pattern—see illustration at lower right, page 121.

17

18



19, 20

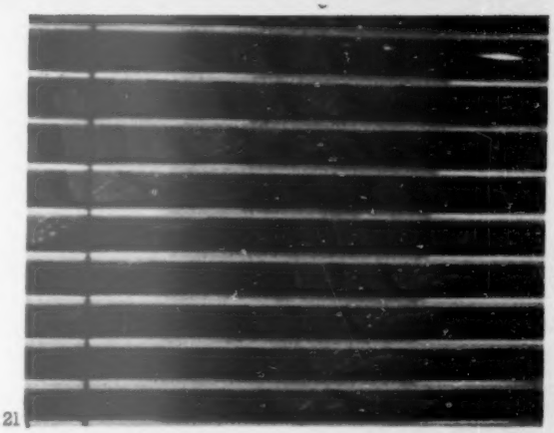
Thorn House | Showrooms

19, display of street-lamp heads at the end of the upper showroom—the end of the overhead display is seen top right. The floor is of pebble-marble tiles, and the back wall of grey mosaic. Venetian blinds, here seen lowered, cover all the main windows on both floors, and are controlled from three panels, such as that seen in 14, both the tilting of the slats, and the raising and lowering of the blinds being power-operated.

20, skirting detail from 19 ; the cove is of satin-finish stainless steel, as is the plug-plate, which is of a pattern standardized throughout the showroom. When the plug is not in use, the socket is covered by a flat black cap.

21, 22, the small auditorium demonstration-theatre on the lower floor can be visually isolated from the rest of the lower showroom by venetian blinds, the degree of isolation being controlled by adjusting the angle of the slats, which are white on one side, black on the other.

23, the auditorium, with the blinds raised. The back screen-wall and the fan-shaped sounding-board are faced in reddish panga-panga, and the carpeting on this floor is charcoal grey. The seating is described over the page.



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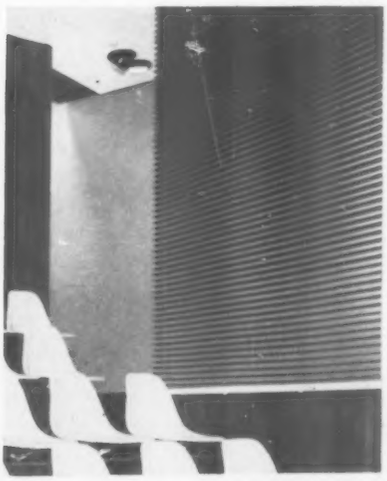
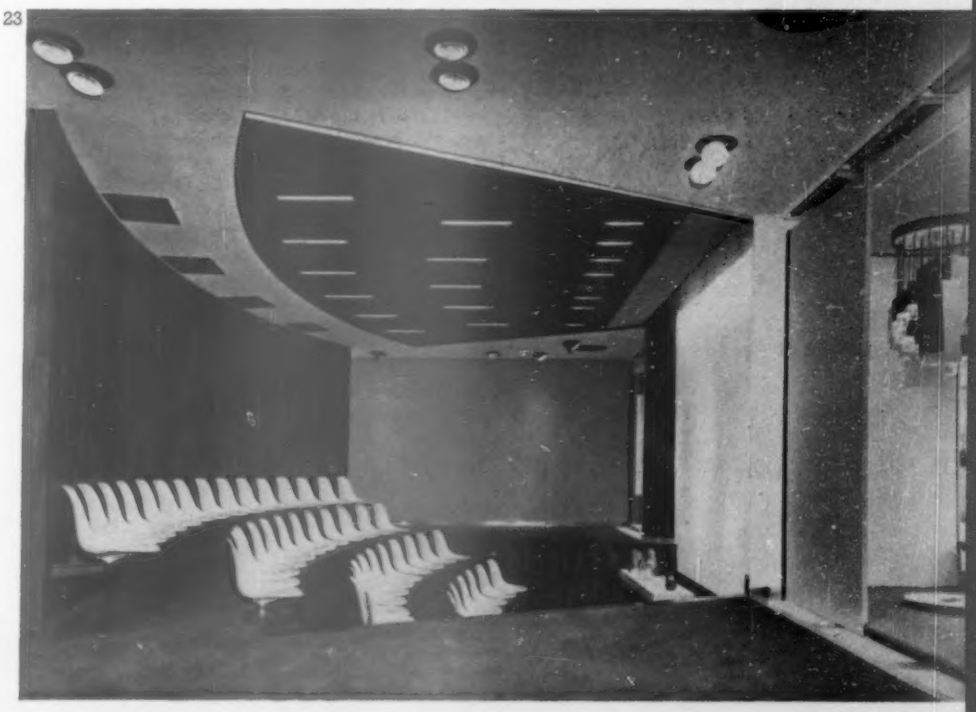


23



1

DR

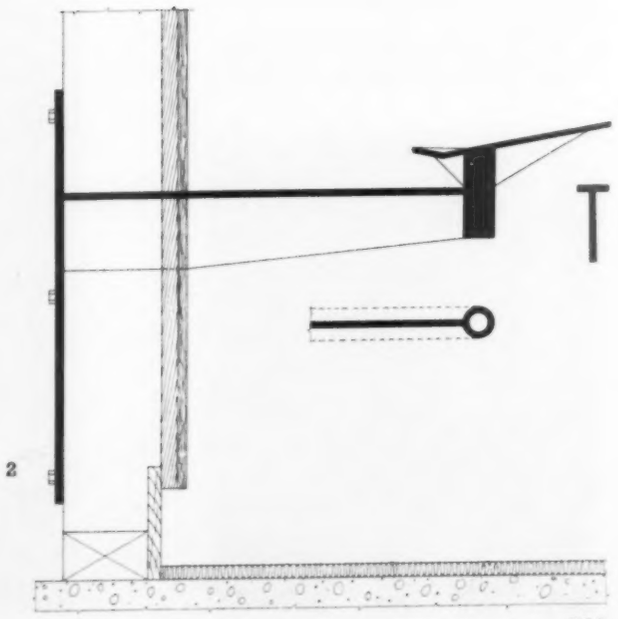
design review

1, *the seats in the auditorium/demonstration theatre in Thorn House represent an instructive example of operations in the margin of mass-production. The seat shells themselves are the familiar and standard ones from the Charles Eames glass-fibre-polyester dining/office chair; the carrier brackets immediately below the seat, together with the rubber pads, are equally standard and come from the office-swivelling version of this chair. Everything so far is serially produced, catalogued equipment and offers the price advantages associated with mass-produced goods drawn from stock. Below this point, the rest of the seat structure is purpose made—in so far as there is any structure, for the lower three rows of seats are spigoted directly into sockets let into the steps of the "amphitheatre." The highest row, however, is bracketed forward from the back wall of the auditorium.*

2, *the brackets, fabricated in steel by the sub-contractors for the auditorium, are passed through the built-up wall from behind, and have a massive back-plate which is bolted directly to the vertical studding of the wall.*

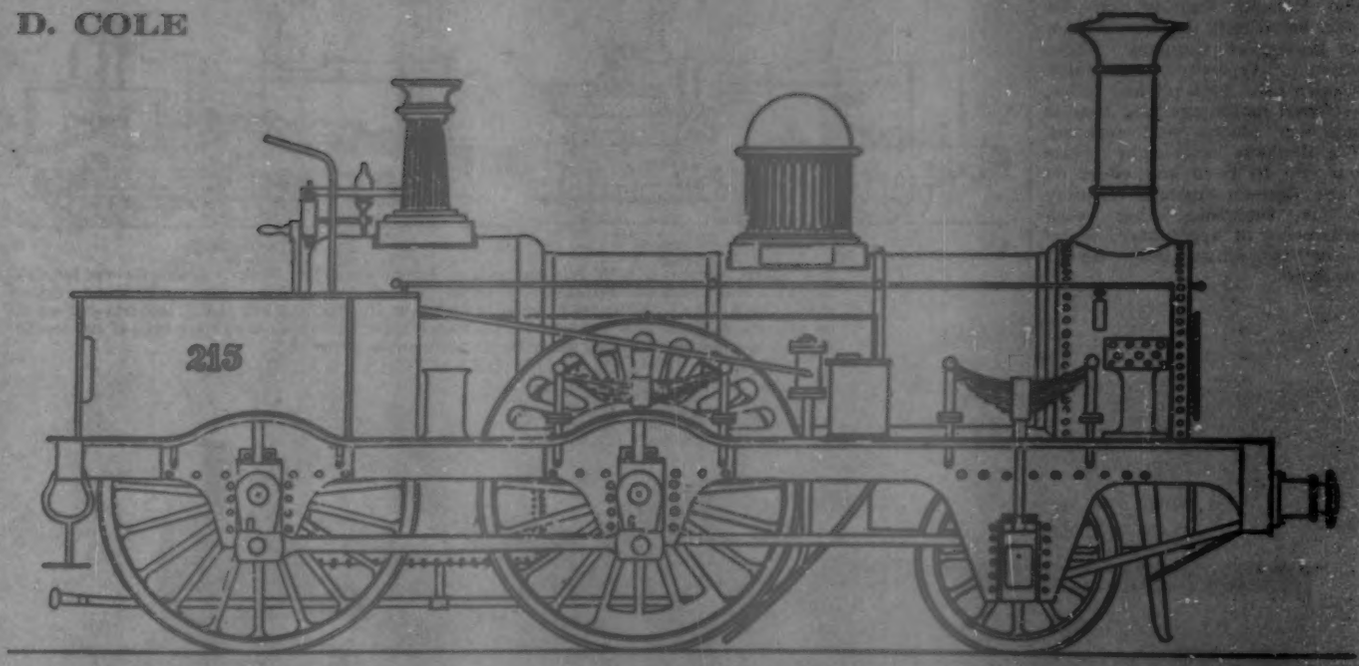
Thorn House / Auditorium Seating

architects : John and Sylvia Reid



2

D. COLE



No. 215. One of Wilson's large Coupled Express Engines, Built 1853 for the Y.N. and B.R.

EARLY IRON HORSEMEN

Generations of Functionalists have pointed to English locomotives of the nineteenth century as solid proof that simple, unaffected engineering design has the same classic elegance as an ideal functional architecture should possess. But how simple or unaffected? Mr. Cole's brief analyses of the house styles of two pioneer founders of the splendid nineteenth-century tradition, shows that one was an architect by training, while the other persistently used architectural motifs, as in the drawing above, 1.

1, CHARLES BEYER

The earliest locomotives of such railways as the Stockton and Darlington were clumsy assemblies of parts lacking form and coarse in detail, and it is measurably due to Charles Beyer that British locomotive design became both functionally and aesthetically the best in the world over a large part of the nineteenth century.

Beyer was born in Saxony in 1813, the son of a poor weaver, and was apprenticed to a weaver at an early age. As a child, his great enjoyment was in drawing and modelling buildings, and, coming at the age of 18 under the spare-time guidance of an architect, his talent, thus developed, gained him a scholarship to the Polytechnic at Dresden, where he studied architecture for four years in great poverty and profited by what the course had to offer. Afterwards he worked as a draughtsman in the Hanhold engineering works at Chemnitz, and won a sort of travelling scholarship to England to study, not buildings, but cotton mill machinery. Here he met Richard Roberts, of the Manchester engineering firm of Sharp, Roberts & Co., and a year later, having decided an unsympathetic Saxony was not worth staying in, he persuaded Roberts to take him on as a draughtsman and either from necessity or by design abandoned architecture for engineering.

In 1838 Sharp's, hitherto a general engineering firm making mostly cotton mill machinery and machine tools, began to take an interest in railway engines, and after 1838 started to build them in relatively large numbers. Roberts found that Beyer had a gift for organising their various components into a shapely whole and for giving the details careful consideration, and it is said that Beyer designed many of Sharp, Roberts' locomotives before 1848 and all of them for ten years after that. These designs included standard passenger and goods engines which were very successful in service and were built in quantity with minor modifications for many different railways at home and abroad. The chimneys had concave curved caps above a small beading and a curved base: the domes sometimes had round drums with hemispherical tops on square bases, and sometimes were plain with a bell mouth at the top rather like a crinoline. The curves of the framing, splashers, and railings round the footplate were also carefully considered, 2, whilst the working drawings—and this applied to manufacturers' in general—were themselves finely executed, bearing comparison with engravings like those in Britton's 'Architectural Antiquities.'

In 1856 Beyer and a partner set up their own firm, Beyer, Peacock & Co., in Manchester (where it still exists) turning out engines, 3, whose fine design was matched by fine engineering, and to appreciate how much British design owes to his influence one might look at continental Europe, where most of the earliest engines were British-built, and where later, Continental builders became more active and copied the British engines. Gradually the characteristic clean lines and careful details were lost, until the average European locomotive was merely a boiler mounted on a frame with wheels on which were hung, as on some grotesque Christmas tree, all sorts of pipes, chimneys, domes, sandboxes and moving parts. In Holland the State Railways used Sharp and Beyer engines, 4, for many years, and a number of handsome, full-blooded

1

DR

design review

Thorn House | Auditorium Seating

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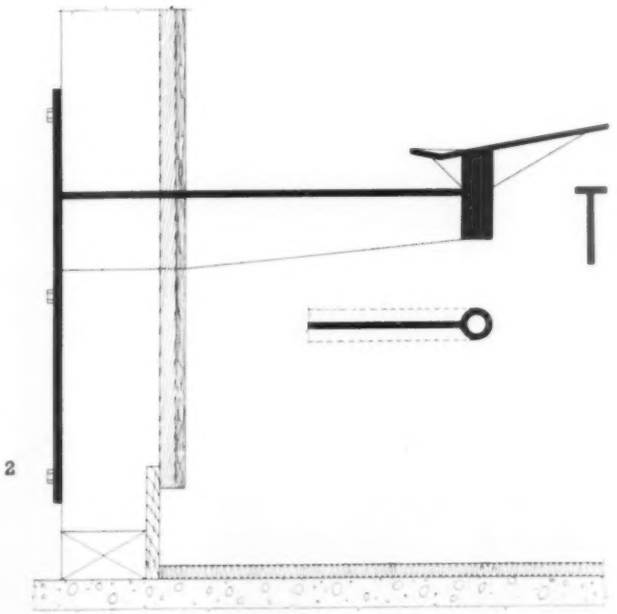

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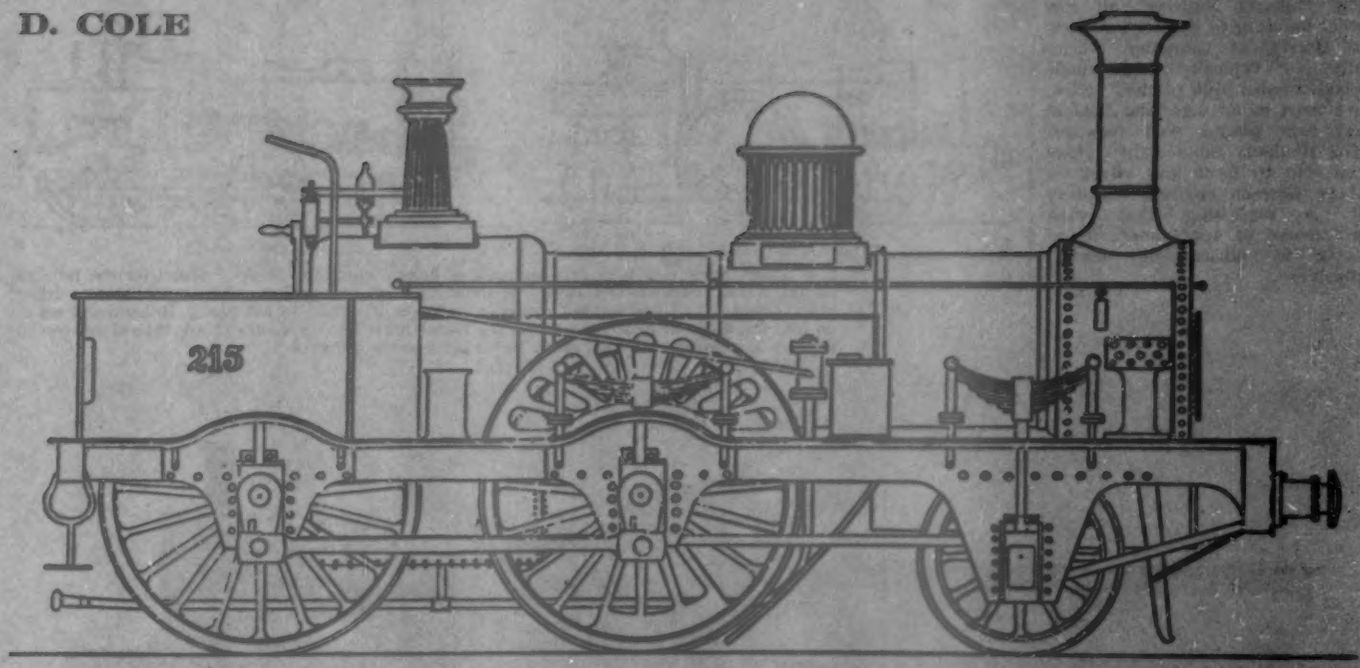
D. COLE



No. 215. One of Wilson's large Coupled Express Engines.
Built 1853 for the Y.N. and B.R.

1

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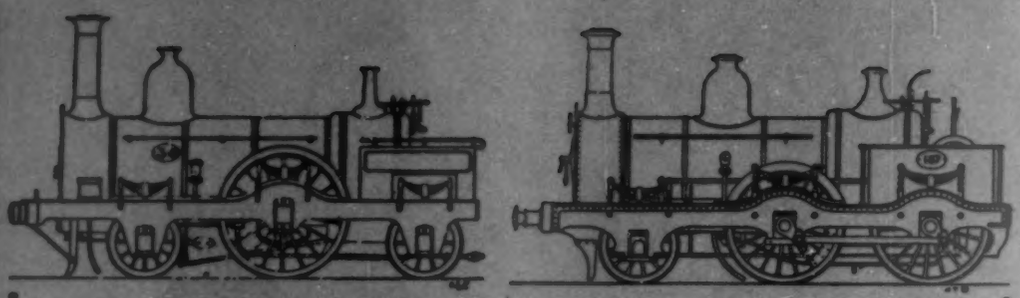
designs with plenty of curves and polished brass were produced. The Holland Railway, on the other hand, until the 1890's stuck to Borsig, of Germany, whose products typically had small wooden cabs, high pitched boiler, oversized mountings, and outside cylinders placed well forward. The Bauhaus came eighty years too late to have any effect on these German engines; certainly it is surprising that such differences of appearance should occur in substantially similar machines.



2 3

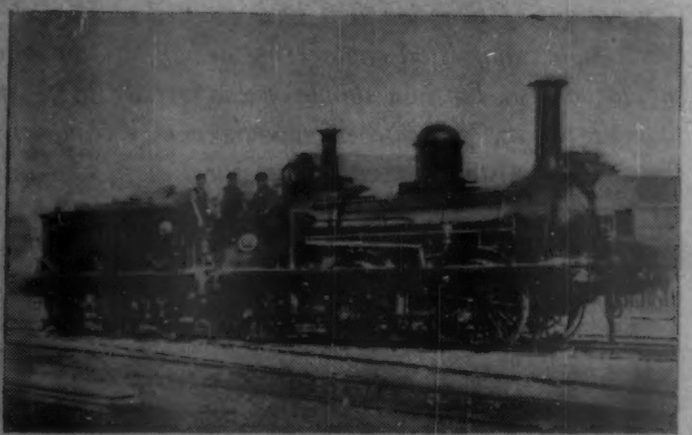
2, a Sharp Single (i.e. with only one pair of driven wheels) to Beyer's design for the London, Brighton and South Coast Railway. 3, Beyer Peacock coupled express engine (with two driven pairs) also for the LBSCR, 1868, designed by Beyer after he had left Sharp, Roberts and set up on his own. 4, Beyer Peacock 4-4-2 for the Dutch State Railways—the classic type of nineteenth-century locomotive, but with many Beyer peculiarities preserved.

4

2, DAVID JOY AND E. B. WILSON

In 1836 the locomotive engineering firm of Shepherd & Todd was founded in Leeds, and after going through a difficult period, became in 1844 E. B. Wilson & Co. Wilson ran it until 1858, when Manning, Wardle & Co. took over, reorganised, and maintained for many years an output of small foolproof engines for contractors, with some larger locomotives. The design in Wilson's time seems mostly to have been the work of David Joy, who was the son of the manager of an oil crushing mill in Leeds, and, passionately interested in all things mechanical, became a drawing office apprentice at Shepherd & Todd's in 1842. When Wilson took over, Joy, although still an apprentice, acted as drawing-office manager and did most of the design, working out standard types which Wilson, an early apostle of standardization, continued to use during the time between 1849 and 1856 when the two men were not working together.

Joy also kept a diary which suggests that some of the carefree abandon with which the firm of William Morris approached business matters had its place here too. Stories of Wilson giving estimates for engines with tenders but forgetting to allow for the tenders in the price are interspersed with tales like that of the trial run of a new engine on the main railway line one dark night, the footplate packed with Wilson and his executives all gloriously drunk. Naturally, the engines themselves were a little out of the common run. They were generally finely proportioned, like Joy's famous design, 1, first built for the York and North Midland Railway in 1847 and named after the singer Jenny Lind. It had the sheet-metal casings of the driving-wheel splashers perforated in a radial pattern like a paddle steamer, a three-piece chimney of pleasing outline, and a safety valve cover of a short fluted Doric column on a square plinth with a curved cornice moulding at the top, in direct stylistic descent from the beam engine, with its fluted Doric columns supporting a superstructure, which is illustrated in Sir Herbert Read's 'Art and Industry.' The dome covers, too, on a square or octagonal base, were fluted and crowned by a cornice moulding and hemisphere, 5, which together might well pass in another context as a bowler hat. It is said that these boiler mountings, which often differed in detail, were all the work of one old craftsman who took great pride in them, but their peculiar design must be due to Joy.



Wilson's, though, made good engines, and one can still with luck see them at work in Spain to-day, having celebrated their centenary. Wilson's, too, trained S. W. Johnson, another engineer who cared a great deal about the proportions of the engines which he designed for the Midland Railway, as part of the same expansion for which Clayton built fine coaches and Gilbert Scott the new London terminus at St. Pancras, probably to be classed among the finest English buildings of the nineteenth century.

5, Wilson 0-6-0 for the LBSCR, 'No. 219.' Although it lacks the 'paddle-steamer' pierced splashers of the earlier locomotive shown in 1, on the previous page, the design retains the Neo-classical architectural detailing for safety valve and dome-cover that were characteristic of David Joy's work.

current architecture

recent buildings of interest briefly illustrated

OFFICES IN SEVEN DIALS, LONDON

ARCHITECTS: BASIL SPENCE AND PARTNERS

Only the exterior of this important office block, occupied by Thorn Electric, is shown on these pages. The interior of the building is fully described in Interior Design on pages 121–128. A 190 ft. high slab block, set at right-angles to the street, rises from the centre of a corner site in Upper St. Martin's Lane. A long low showroom faces the street. There is a basement car-park and a landscaped forecourt at ground level extends under the tower and covers

1, *looking across the forecourt, beneath the open ground floor of the building.*

Offices in Seven Dials, London

most of the site. The structure is of reinforced concrete, and the tower block is supported by eighteen columns resting on block foundations on the London clay.

The basement is entered by a two-way ramp, and contains all the building services, including pressurized cold water tanks, electric power and telephone substations, and oil-fired boilers, as well as parking space for forty cars.

The two-storey showroom, extending partly under the tower, was specially designed by John and Sylvia Reid for the display and demonstration of electrical equipment, and is air-conditioned and acoustically controlled.

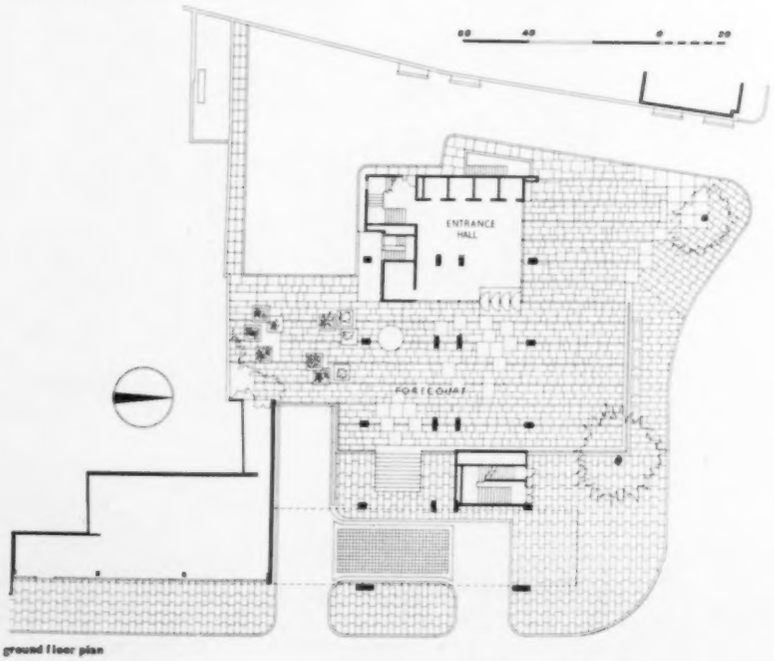
The north and south walls of the office tower are continuously glazed between horizontal bands of dark grey glass mosaic; non-actinic glass in the upper panes reduces direct heat from the sun. The east wall of the tower fronting St. Martin's Lane is faced with Derbyshire stone. It is to carry a work of sculpture by Geoffrey Clarke which was not yet in position when these photographs were taken.

2

4

3

2, looking along the ground floor of the St. Martin's Lane front. 3, general view. The fixing for the future sculpture can be seen on the flank wall. 4, on the roof, showing exposed concrete frame.



ground floor plan

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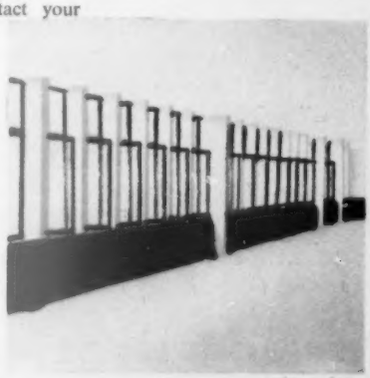

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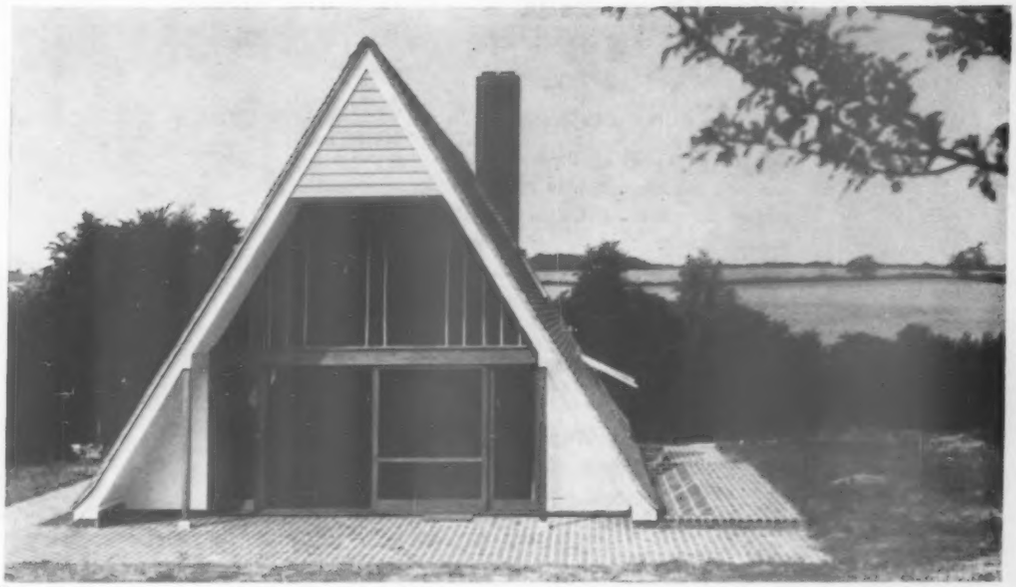


5

5, the gable end, with two-storey studio window divided by a timber transome. 6, 7 and 8, three studio interiors, showing the open timber stair to the gallery (beneath which is the kitchen-dining room seen in 6) and the central brick chimney.

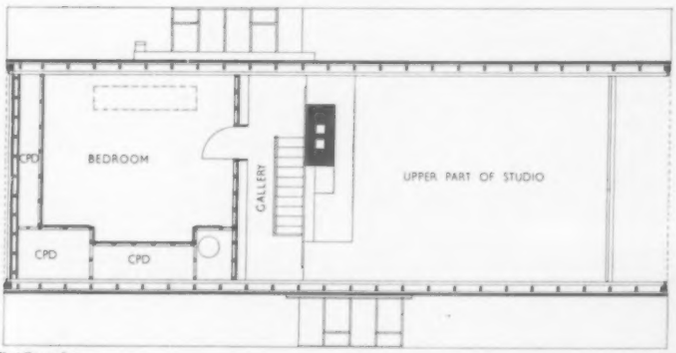
HOUSE AT MONKS ELEIGH, SUFFOLK

ARCHITECT: PHILLIP DOWSON

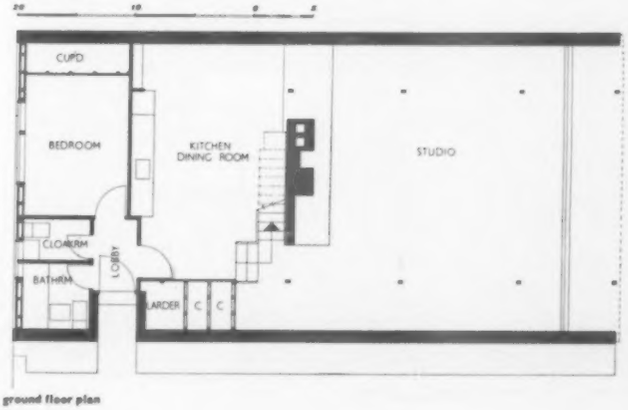
in association with Steane, Shipman & Cantacuzino

The site is on a north-sloping hill by the edge of an old sand-pit, which has been used to form a sheltered dell, overlooked by the external terrace of the studio.

The steep-pitched roof, which is a local tradition, rests on a dwarf wall carried on the site slab, and is constructed with a series of A frames at 2-foot centres. These are designed so that the tie and purlin support point divides



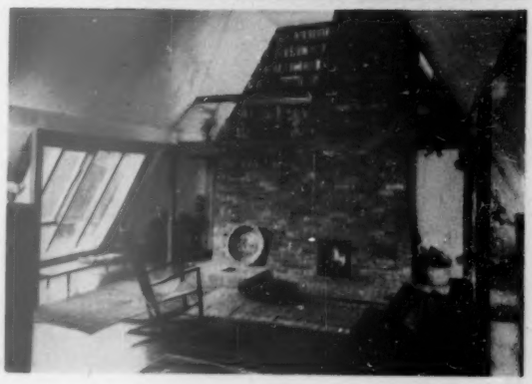
first floor plan



ground floor plan

6

7



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9

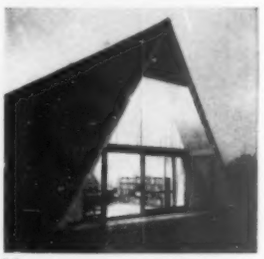
House at Monks Eleigh

the rafter into three equal parts, cutting down the rafter size to a minimum. Timber columns at 10-foot centres support the purlins. There are also diagonal wind braces within the roof.

Windows in the roof are top hung with friction stays, shutting on to the rafters, which at these points are exposed, with lead gutters at the window head to discharge water clear of the glass. The roof is insulated with glass wool and covered with clay tiles; the ceiling is plasterboard and plastered.

The main south window, screened by a 4 feet overhang, has a timber venetian blind pulling up from a blind box formed in the main transome at door-head height. The two-storey section at the rear has a bedroom, bathroom, cloakroom and large kitchen-dining room on the ground floor, and an additional bedroom and gallery overlooking the studio on the first floor. The main chimney is of fair-faced brickwork with a wide brick hearth and forms the focus to the whole house.

9, detail at top of gallery stair, with chimney behind. The main bedroom is reached from this gallery. 10, *the house lighted within.*



10

OFFICES IN SOHO, LONDON

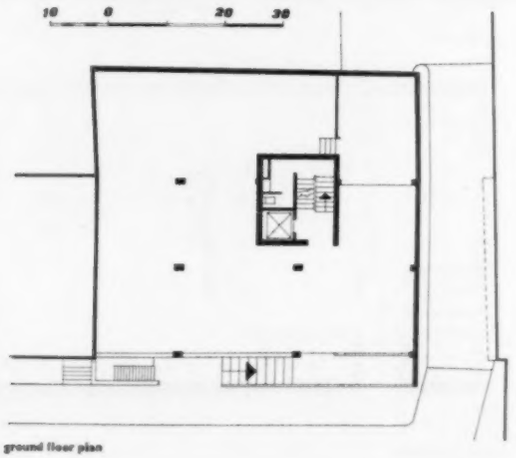
ARCHITECT: DOUGLAS STEPHEN

These offices in a cul-de-sac off Dean Street have a ground-floor showroom, three floors of offices, two two-bedroomed flats set back on the top floor and garage space in the basement. The structure is of reinforced concrete with glazed infilling under window panels. Brick infilling is dark silver-grey. The upper frame of the building is faced in white ceramic mosaic and the lower section has an exposed aggregate marble slab facing. The staircase is finished in terrazzo with plastered walls and soffite, with glass balustrades and a chromium plated steel handrail.

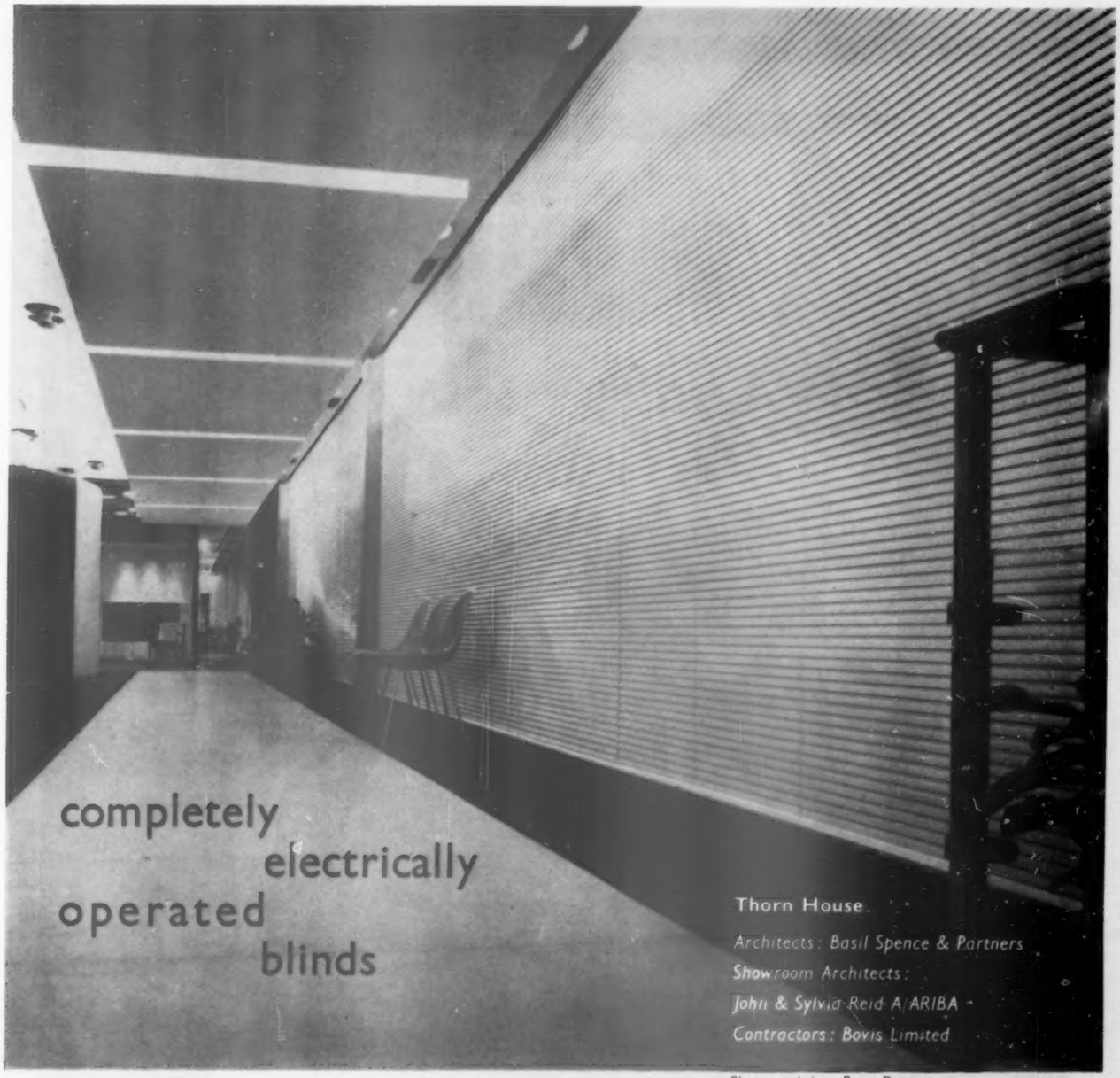
11, from the yard, looking through the archway into Dean Street. 12, *ground floor showrooms, with surround of marble-faced slabs.*

11

12



ground floor plan



Photograph by Peter Doresa

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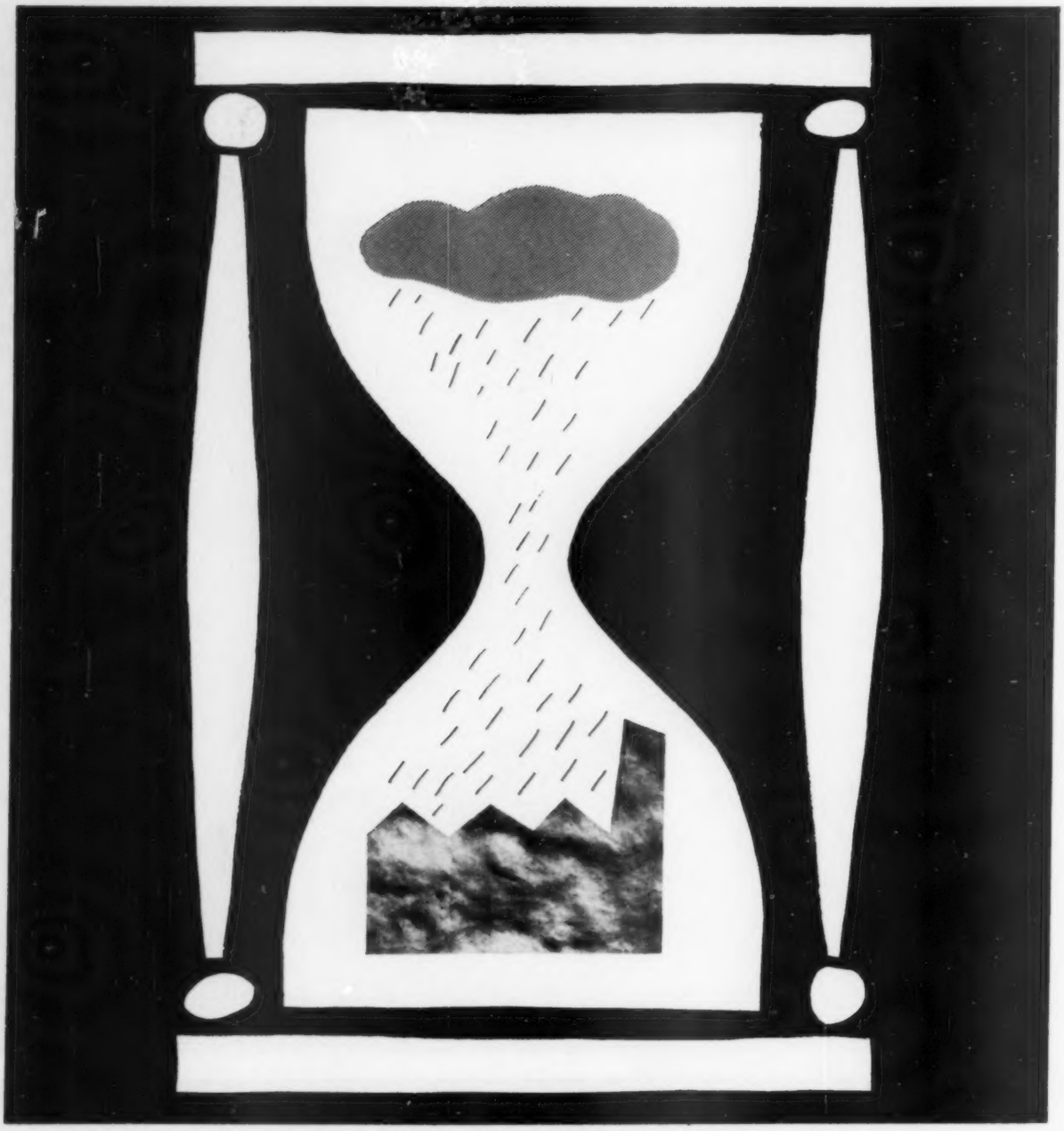

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EXHIBITIONS

PAINTINGS AND SCULPTURE

In the largest one-man show of sculpture that has been held in London for several years, the bronzes of Jacques Lipchitz confronted us with a number of unusually demonstrative encounters between mother and child, father and prodigal, Europa and bull, man and bird, etc., which were nevertheless overshadowed by the highly dramatic encounter between the two halves of his career, between the impassive cuts from the cubist cake and the impassioned shake-outs from a neo-baroque eel-tank. The show itself came nearer than any item in it to Lipchitz's idea for a sculptural encounter between the cold armour of Perseus and the warm naked body of Andromeda.

I find that my reaction to this idea for a Perseus and Andromeda (Lipchitz, by the way, says that he thought of it at the outset of his career and made a small maquette, no longer in existence) reflects my attitude to the exhibition. I don't wish to identify myself with either of the lovers, but think that I might not be unresponsive in the role of sado-masochistic witness: likewise, I found that half of the spectacle at the Tate was too cold and the other half too hot. I didn't favour either half, but was fascinated by the juxtaposition.

This division in his work has given him two separate reputations. In France, during the early twenties, he achieved fame as one of the leading sculptors of the cubist movement, but for many years he has been working in a style that might be described as lyrical expressionism and the work of this kind has brought him immense popularity in America.

A large number of the cubist sculptures shown at the Tate were four-sided reliefs with the statement of the theme—borrowed, without a glimmer of inventiveness, from cubist painting—concentrated in the frontal view, and for this reason the wall reliefs of still life subjects looked rather less arbitrary than the thicker pieces. All the same, I think that the catalogue should have mentioned that in most cases Lipchitz's early cubist works were stone carvings and that we were being shown bronze casts of them, made at a later date to satisfy museum demands for souvenirs of the cubist period, for I am quite certain that the original carvings are livelier objects than the casts, which have an unpleasantly cheesy look. But the fact remains that they did not make a serious contribution to cubist sculpture. Compared with Picasso's little bronze of a glass of absinthe and his occasional constructions and the cardboard suits he designed for the Managers in Cocteau's *Parade*, they are no more than a belated footnote to the history of cubist painting. They were no wiser for coming after the event, and made no discoveries, but they were done with great solemnity, and assumed a deliciously comical air of authority that gives them period quaintness. It is usual to praise them for their discipline and intellectual coherence, but they abound in obscurities and ambiguities; a seated man looks like a pair of lovers, a head resembles a full-length figure. They are at their best when they are invaded by an unintended, dada-like humour, as in 'Seated Man with Guitar,' 1, which looks more lucid when considered as a bird personage haunted by an owlish ancestor.

1

The obscurities in these static blocks are their link with the later works, which are usually recommended for their surging vitality and their ebullient celebration of mother love, rape and blood sacrifice. In essence, these later works appear to me to be elaborate and incoherent substitutes for the winged phalli of the ancients. Lipchitz makes his symbolical figures out of fat ropes of clay that tie his ideas about aspiration and abundance to erection nightmares. Such figures as 'Inspiration,' 2, seem to me to be sexual rhetoric, and the welcoming hand that pops out from this twisting, quivering pillar suggests that

2

the sculptor has converted a Victorian personification of Charity to a belief in the instinctual drives. An alternative title for this one might be 'I can't give you anything but lust, baby.' 'His world,' writes Bernard Dorival in the catalogue, 'is governed by a play of sweeping effects which capture the crowd by their blare and shock.' It is meant as praise, and would seem to be all too true.

The exhibition called 'Sculpture of the Tellem and Dogon' held at the Hanover Gallery differentiates between two kinds of tribal work found in the high cliffs of Bandiagara overlooking the Sudanese plain in a bend of the upper Niger, about 180 miles south of Timbuctoo. As far as one can make out from the very faint thread of information that runs through the poetic text provided by Jacques Damaise, the Dogon have lived in this terrain for something like 400 years and the Tellem were there before them. Apparently the Tellem tribe is extinct and the only clue to its existence the sculpture which is in a less 'humanistic' style than that of the Dogon tribe. We are not told how the extinct tribe came to be known as 'Tellem' or on what grounds some pieces which have certain Dogon characteristics are attributed to Tellem, but apart from a few borderline cases the Tellem works make a distinctive group. The Dogon style is well known and the pieces included in the show were no doubt there to point up the difference.

The Tellem works are for the most part highly simplified standing figures with arms raised up straight above the head, 3. Many of them have no hands and the

3

raised arms terminate in a solid block, leaving a rectangular or dagger-shaped hole above the head. In figures where the arms are not sealed off the hands have no fingers and are represented by a flat, diagonal palms-out cut. They all curve slightly backwards as if pressing against an invisible wind. They are made of wood, but some of them bear a thick incrustation that gives them the look of having been carved out of volcanic stone. This incrustation is said to have been formed by countless libations of a paste of ground millet and blood, so they would seem to have been very thoroughly involved in ceremonial sacrifices. They are perhaps more primitive than the work of the Dogon. Jacques Damaise says they are abstractions which 'stem direct from the soul.' He also says that they have 'the eternal feeling of life emerging into form,' and I think I understand what he means by this. They are the very opposite of the Lipchitz figures, for whereas the Tellem seem to be coming into human shape before our eyes, the Lipchitz figures seem to be dissolving into undifferentiated matter. The Tellem were involved in blood sacrifice but Lipchitz simply toys voluptuously with the idea of it. The Tellem figures may be stained and discoloured by blood but they are not marked by anarchy, and Damaise deserves the last word: 'they reveal,' he says 'man's capacity for salvaging himself from chaos, even if it means through blood.'

This exhibition was followed at the Hanover Gallery by the recent paintings of Stefan Knapp. He makes pleasantly decorative play with clusters of spherical forms which seem sometimes to be half-immersed in memories of *art nouveau* lily

4

ponds, 4, and sometimes to be hovering, without evil intent, just outside the earth's atmosphere. These themes are modish and yet old-fashioned, but in some of them the colour, no doubt as a result of his heroic experiments with large-scale enamels, is quite wonderfully light and pure.

The latest of Arthur Tooth & Sons' 'Recent Acquisitions' shows ranges from Guardi to Picasso and includes Samuel Scott's neat record of 'The Reappearance of Halley's Comet in 1759,' 5, an earth-bound glimpse of outer-space activity which achieves a more impressive sense of far-offness than the vacant textures with which some of our abstractionists try to obtain the sensation of being out there.

Mr. Graham Reid, the son of a famous art dealer, has opened a charmingly intimate gallery in Cork Street, and intends to specialize in nineteenth and twentieth-century drawings. His inaugural show is admirable in quality and catholicity and the twenty-five works on view included many famous signatures. Among the more modest works were Paul Nash's delightful little watercolour from the series painted as illustrations for 'The Garden of Cyrus,' a precise little pen drawing of flowers by Roger de la Fresnaye, which had a faint touch of Redon about it, and a Constantin Guys watercolour of two horsemen and a coach, 6, which was in unusually full colour.

6

The Arthur Jeffress Gallery has been showing an interesting group of etchings by the nineteenth-century artist J. J.

5

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Tissot, who took an almost equal pleasure in delineating beautiful woman and the rigging of sailing vessels and brought them together in meticulously detailed paintings of social occasions aboard ships. The etchings are almost entirely devoted to studies of his mistress, and although her good looks are as old-fashioned as a cabbage rose, only a very cold eye could remain unaffected by Tissot's evident delight in her. In the studies of his mistress he was groping for the secret of her personality, but in his studies of other women he was content with an incisive delineation of character. The etching of a woman with a monocle is a good example, 7, and the

7

sharply observed hands seem somehow to bring her face into full view.

Anne Madden, who is the wife of the painter Louis le Brocquy, has been holding her first one-man show of oils at the Leicester Galleries. The most interesting works were those in which she traces out

8

the structure of rock faces, 8. These have very real distinction, for she has been able to make adept use of the contemporary technique of controlled trickles without betraying her almost Ruskinian piety towards natural forms.

Robert Melville

COUNTER-ATTACK

HADDINGTON, EAST LOTHIAN

Since the war Haddington has faced the same problem as nearly every old town in Scotland—or indeed in the whole of Britain. Through years of neglect, if not of actual provocation, decay has set in among many of the old houses. Often overcrowding, producing virtually slum conditions, has helped; but the main cause has been simply an inability or unwillingness to look after the houses as they need. Haddington (unlike, say, Banff or Harwich) has never been allowed to get really ruinous; but most of the town needed a great deal of improvement, and a few houses were quite uninhabitable.

These are things, however, which Haddington shares with other towns. In two respects it stands out: in the quality of its design and in the endeavour by all concerned to make the Town and Country Planning Acts work as they should.

There is no better small town in Scotland than Haddington: what we have today appears to be a happy amalgam of design and accident. Haddington was one of a number of towns founded in the twelfth century by David I. It was clearly laid out according to a definite plan, with an immensely long triangular market place, whose axis lay east-west along the line of the old main road from Berwick to Edinburgh. (The A1 now by-passes the town about half a mile to the north.) Quite early on, the familiar silting-up of the market place happened, with stalls in the middle becoming permanent, and then being more substantially built up into what is now a double row of quite large buildings, dividing the two parallel main streets of the town and ending at the west in the superb eighteenth-century town hall. There is no doubt that this whole range has added greatly to the formal impressiveness of Haddington. For in addition to the houses and shops in the middle, there is room for an agreeably wide street to the north (Market Street), and, to the south, High Street, which is still wide enough to be in effect an elongated rectangular market place, 1. There are many other good things in the town (including a fine fifteenth-century church standing rather isolated on the south-east edge), but the real delight of Haddington is contained in the area of the old market place, with the wide tree-lined Court Street dividing at the town hall into the two parallel shopping streets.

The real delight and the core of the real problem. One of the main planks of the approved County Development Plan for East Lothian was the development of Haddington, the county town, both to unite the various socially different parts of the county—mining, agricultural and coastal fringes—and to resist the suburbanizing influence of Edinburgh. This was to be achieved by boosting its exceptional architectural character and in-

1

2

1, *Haddington High Street looking west towards the town-hall.* 2, *the south side of the High Street.*

creasing its population by planned expansion.

The Planning Officer, Mr. F. P. Tindall, led the way by personal example in reconstructing a derelict house in the old suburb of Nungate, writing a new guide to the town (which is a model of what such things should be, informative and enthusiastic), and zoning the centre of the town as an area of great architectural interest and of special advertisement control in the County Development Plan. The Town Council, its local pride aroused, rose eagerly to the task. The Town House, designed by William Adam, with a spire added by Gillespie Graham, was reconstructed for the Coronation, with the help of a grant from the Historic Buildings Council. The historic Nungate Bridge was also repaired; and the Council have now acquired and will renovate Carlyle House, a fine miniature palace-fronted house which was the birthplace of Jane Welsh, Carlyle's wife.

Another important early move was to ensure that Market Street, much the less interesting of the two streets (but good enough, for all that), should be the main east-west traffic route through the town. This was logical enough, since it connects directly with the main bridge over the River Tyne; but it meant—or will mean—some widening and hence some demolition at the east end. The essential point at least was to prevent the breaking open of either end of High Street and to preserve it as the town's great urban enclosure. High Street couldn't, however, be left to take its chance. The houses urgently needed modernizing (most of them were without hot water or electricity), and while a good many owners were keen to do the work themselves, others couldn't afford to. The south side of the street, 2, was the greatest problem and the greatest opportunity. It represents probably the finest remaining row of eighteenth-century urban architecture in Scotland. (The north side is also remarkable; and it is of course the fitness of the whole which is so specially distinctive, 3.) Behind are the remains of the long riggs or crofts in which the owners of the houses kept their cattle at night. (As recently as 1907, on the retirement of the Burgh Cowherd, the town considered appointing a successor.) These riggs had in part been turned into gardens, and in part been built over with sheds or even (decidedly unhealthy) housing. In 1954, the County Planning Department prepared a survey of all the houses on the south side, with recommendations for treatment. Normally the work could be —and in large measure has been—carried out by the owners with the aid of improvement grants; but in a few cases more drastic action was needed, and the Town Council were persuaded to buy several houses in order to restore and re-let them to the tenants already there.

An important part of the scheme is to make a new cul-de-sac road running roughly parallel to High Street across the rather ill-used riggs at the east end. The road will fork into two, the northern limb acting as a service road for the shops and workshops in High Street (which at present have to be serviced entirely from the front), the southern to serve 27 new houses to be built partly in one long east-west terrace with gardens running south to the Butts (a lane along the old Burghers' Wall), partly in short north-south terraces along three of the riggs. In this way tenants losing their houses in the riggs (where the really insanitary ones are to be pulled down) can get new ones in the centre of the town, *where they want to live.*

In addition, two small areas north of Market Street have been zoned as Comprehensive Redevelopment Areas, the first to be started in Scotland. One of these provides a small shopping enclave in Newton Port. The other and larger one at the north-east corner of the old town is now largeiy complete. It is an uneasy mixture of success and failure. To begin with, the widening of Hardgate, the main street running north from the east end of Market Street, has been fixed in a typically bone-headed bureaucratic way. An original proposal to widen it on the east side was opposed by the late Sir Frank Mears because it would have meant the demolition of the ruins of Bothwell Castle, a seventeenth-century castellated mansion which was the only thing of interest on that side. So the west side was chosen, where there were a number of attractive cottages (most of them on the provisional list of historic buildings). Before anything was done the castle more or less demolished itself, and there could now be no objection to the original scheme—none except that the west side had now been chosen, and, as is well known, it is a very wicked thing to revoke decisions once made. The west side has now gone, and has been replaced by a range of flats designed by the architect to the Burgh, 5. However, the fact that this road widening was carried out under the Comprehensive Development Area procedure meant that it was carried out as a unified scheme:

3, *Haddington High Street looking east.* 4, *the new square at the corner of Market Street and Hardgate.* 5, *new flats in Hardgate.* 6, *café in High Street, with the wall used for advertisement.*

3

5

4

6

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7, the County Planning Department's original plan for the new estate.

demolitions did not take place years in advance of rebuilding, enough land was acquired to make a worthwhile scheme and a new corner made in which the architectural presence of the early eighteenth-century Gilmerton Town House was allowed to be the determining factor in the design.

The original housing proposal by the architects

8, an original and imaginative shop-sign.

for the Burgh, which included turrets and stonework scattered over its brick face, has been replaced by two small stone houses (correctly detailed through training local masons) and three-storey brick-built flats. The best that can be said for these is that they are more solid-looking than most modern Scottish housing, which appears flimsy and temporary against the sturdy vernacular of previous centuries. Again, the requirement for a cobbled forecourt by the County Planning Department has been only in part achieved, and foolish and unusable patches of grass are put in front of some of them, destroying the urban character.

The corner site, 4, may well have a happier outcome. Already the simple single-storeyed café (architect, F. R. Stevenson) shows once again how well a straightforward twentieth-century building will go against an older one, in this case the Gilmerton House which is to be restored. (But the Town Council were only made to accept a flat roof by the owner's not being able to afford a pitched one.) The row of buildings on the left are to be converted into shops and the square in front paved and tree-planted. The gap on the right, between the café and the end of the new flats, is to be filled by two shops designed in principle according to a plan prepared by the Planning Department.

The passing of the Scottish Housing and Town Development Act, 1958, enabled the second principle of the County Plan to be realized, the building up of the town's population. Haddington was the first town to sign an overspill agreement with Glasgow Corporation. Two hundred and five of the 250 houses are building on the outskirts, and the remainder are to be reconstructed and new houses provided in the old parts of the town. Although the Planning Officer was first off the mark with a housing layout embodying the separation of pedestrian and vehicles, using a Neubuhl type of house, 7, the Town Council preferred the conventional scheme put forward by their architects, a scheme which looks like being as dull as most other housing estates. In such cases the County Planning Committee do not refuse permission, though here they made a condition that a landscape plan was prepared and carried out, incorporating an equipped toddlers' playground, areas for ball games, and the rebuilding and regrading of the river bank, which was liable to damage in the floods which have a habit of affecting Haddington. Thus the overspill is not only boosting the town's commercial prosperity but helping in the reconstruction of the historic parts, as well as giving an added amenity along the riverside.

Haddington also seems to have learned from the lessons of the New Towns and is trying to get a wide range of age-groups among its new population. Houses are not tied to industrial selections, but relatives of new arrivals get priority, and they will be housed in all parts of the town, not merely in the new estates.

* * *

But the thing that most people will notice

9, British Linen Bank in the High Street at Haddington, with fluorescent tube fitted to the corner.

immediately about Haddington is the almost unbelievable absence of street-clutter. Long before the Magdalene Street scheme was thought of, Mr. Tindall established a one-man Civic Trust in Haddington, ready with new and gay colour schemes, a set of amusing, if sometimes slightly arch shop-signs, 8, to replace more orthodox commercial ones, and at least one idea for using the shop wall instead of the windows and street for local advertising, 6: the effect is somewhat spoiled here because new proprietors have put back some of the old signs which Mr. Tindall had persuaded the previous people to throw out. The lamps chosen for the centre of the town are an almost unqualified success—unobtrusive and well-sited, which is quite an achievement for fluorescent tubes, 9—though unfortunately in the surrounding streets, where it has been more difficult to use the walls of buildings, we find only a chaster version of the Past President of the Royal Academy's Roman Candles (see in 5). The general effect in the centre is to make Haddington into something of a counter-attacker's dream-town, 3.

One final sticky problem in the centre must be mentioned: there is at present a hole on the south side of Market Street, where Scotland's first bomb of the war fell. The site is owned by the East Lothian Co-op., together with the block in High Street immediately behind. The design problem is a difficult one; but the success of the Hardgate café—if nothing else ought to make the point quite clear that a genuine twentieth-century building is the proper answer. Whether the Co-op. will be imaginative enough to provide one remains to be seen. At least it is worth hoping that they will leave their present shop-front on High Street as it is: it shows clearly on the left-hand side of 3, and it is one of the most successful in the town.

* * *

Haddington seems to offer no end of morals. Three are perhaps most noteworthy. In the first place, Mr. Tindall has no more power than any other planning officer. He has, however, a good deal more imagination and foresight than most, and a good deal more persuasiveness. Haddington—where the thing has been successful—is in fact a triumphant display of what can be done through persuasion, for all the new signs, colour schemes and shop-fronts were managed this way. Moreover plans were very often ready beforehand and could actually be proposed when the situation arose. And this is the second point: that the County Planning Department have very sensibly been allowed to use office time for the preparation of colour schemes and other devices for private people, which have nonetheless had a real effect on the whole look of the town (and of other towns in East Lothian too—Dunbar for example).

But finally there remains the dreary fact of the new flats and the new estate. The most persuasive planning officer in the world can't turn a timid and indifferent architect into a bold and rewarding one. If the houses in the Butts scheme are to follow the way of the rest, the best effect and pleasure will be entirely lost. There *are* a few examples in Scotland of an imaginative architect finding exactly the right solution for just such a problem—most notably, perhaps, Richard Moira's new houses at Lerwick in Shetland. And it is good to learn that he has been engaged for similar work in North Berwick. The chance of having such work in Haddington ought to be jumped at. But the other side of the moral is to remember that, alas, planning officers are only advisers, however brilliant they may be. If their plans and advice are taken, well and good (very often); but positive decisions are taken by councils who must learn about town design and about town living if they are to rise to the opportunities opening in front of them.

Ander Gemmo

SKILL

CURTAIN TRACKS

by Lance Wright

Fittings influence the visual effect of a building to a degree which is quite out of proportion either to their cost or to their bulk. At different times we have considered in these columns such items as door handles, sliding gear, blinds and weather stripping. This month attention is turned to curtain tracks.

Though the window blind is a neater, more highly mechanized and, therefore, in theory, a more fitting method of closing the window openings in our architecture, the blind can never really replace the curtain as a means of cutting out the cold at night. Unfortunately, the curtain, regarded architecturally, is difficult to cope with: its unprecise forms are not easily reconciled to an aesthetic which sets such store on precision and, when drawn back, the curtain threatens to muffle the window forms at the sides, while its track causes ambiguities at the head. The Renaissance, particularly in its latest Victorian age, enjoyed the drawn curtain as it had a connotation of luxury; permitting it not merely to provide a gratuitous frame to the window (and, incidentally, to cut out a large part of the window's light) but to mask the form of the window altogether when seen from the inside. The aesthetic of today does not altogether reject luxury, but insists that luxury, when used, must not tamper with line and form. Since the Victorian age, the curtain track has gone through a great many changes: from a thick pole, with huge rings to match, to heavy brass track and pulleys; from these to the light brass snap-on tracks of thirty years ago; from these on again to their lineal descendants in aluminium, nylon and plastic-coated steel and to the recessed tracks of today. All of these changes have been in the direction of unobtrusiveness: in sound—from a rich rattle to a faint hiss—and in sight—from a display of tackle like the spars of the sailing ship to a mere line.

The object of this article is not to record the stages in this change, but to describe and comment on those kinds of track which have survived or have newly joined the throng, and between which the architect must now choose.

Window strategy

Unobtrusiveness has been so persistently aimed at in curtain arrangements that we must presume that it is a goal worth aiming at. But this is not to say that this goal is to be carried as far as complete invisibility. Some would certainly like both curtains and track to disappear from the line of light during the day. There is, however, an inherent difficulty when you have to do with the ordinary kind of window punched into the wall with a sill, head and reveals. For, if the track is to be invisible, it must be recessed into the soffit of the window. If this is so, then the curtain must, when drawn back, lie against the reveal and, unless there is a considerable space between the face of the reveal and the edge of the pane, will be obscuring light. If you are using what is known as a 'cording set' (i.e. if you are drawing the curtains by means of a cord) then there is no reason why there should not be a recess in the reveal for curtains; but in most cases this would be a rather desperate remedy. A reasonable attitude towards the curtains themselves is to allow them to show in the room provided they do not obscure either the edges of the pane or any architectural lines on the reveal. A case in point is the common one of the Georgian window with architrave. It is clear that both reveals and architrave are part of the functional attributes of the window and ought not to be obscured. Any curtain, when drawn back, therefore, ought to hang well clear of the architrave, which implies some form of rail which will overshoot the window casing by a clear six inches or so to right and left. This brings us to the rail itself and to the different attempts that have been made to conceal it. The first of these attempts is represented by the pelmet or the pelmet board. The late Renaissance enjoyed the pelmet and, by shaping it, used it as the primary means of giving an expression to the window head. Latterly this use has been abjured and the pelmet has been confined to the practical function of hiding the top of the curtain and, perhaps, shielding it from dust. The resulting square box projecting into the room at the window head has always been a troublesome thing to handle. It is visually most unsatisfactory when it coincides in length with the length of the window head; and there is a strong case for carrying it the full length of the window wall. We have already referred to the move to make the pelmet unnecessary by recessing the track into the soffit of the window. A better solution (though it may require more curtaining) is to recess the track into the surface of the ceiling and to run it the full length of the wall. Wall length curtain tracks will normally give those in the room the option of using their curtain as a wall hanging during the day. This is confessedly an expensive solution and now that tracks themselves have become so much neater (especially since the introduction of nylon), the question arises of whether full recession is really necessary. The desire to conceal gear is very rational so long as the gear itself is clumsy; but once it has passed a certain threshold of neatness it may be preferable to show it.

In addition to these, there are two other general matters to consider when choosing a system: the first is whether the curtains are to be pulled by hand or by cord, the second is whether the curtaining is to be in one or two (or more) pieces; and, if the latter, whether there is to be a 'cross-over.'

Hand or cord pulling

It is generally agreed in the trade that curtains last longer when they are drawn by cord. On the other hand, broken and jammed cords are a very common source of annoyance and the extra paraphernalia they require is an added dust trap. Also they cost more: if the average price of uncorded runners is 2s. per foot run, cords will certainly double this. The smoother running of nylon track probably makes cording a shade less desirable than it used to be, but it remains essential on very large windows and where the curtains are likely to be opened by people who have not paid for them and who may not be fussy about the cleanness of their hands.

The cross-over problem

When curtains meet over a window in the same vertical plane they will always let through a chink of light. The common way to prevent this is to provide a 'cross-over,' that is, the track is run in two pieces and one length is twice bent so that it crosses in front of the other length in the middle of the window. Nearly all the common brands of simple flexible track provide for a cross-over, with a special bracket which will hold the two rails in the right position; but some of the more recent types—particularly those which are recessed—do not allow this. When you do not have a cross-over the only way to avoid a chink of light is to make the curtain in one piece, on the understanding, of course, that when it is drawn it will hang on one side of the window only. So long as the curtain is regarded as 'framing' the window, this is objectionable, but once it is regarded simply as performing a function, the objection begins to disappear and, when the curtain is thought of as being a day wall-hanging, the objection goes altogether.

It seems logical, when considering the products now available, to group them according to type and to consider first plain track, passing thence to cord-controlled track and lastly to recessed track.

REVIEW OF PRODUCTS

Plain track

Brass: The material which made possible the first curtain track revolution was brass. The track itself was (and usually still is) a simple I section, the top flange of which is gripped by the bracket while the bottom flange (which is usually wider) forms a track for the runners, which are commonly in the form of a pair of nickel-plated brass wheels joined together by a loop of brass wire for hanging the curtains. This brass track can usually be top hung (i.e. to the soffit) or side hung. It is supplied with brackets and can also be supplied with valance rails (a valance being the same thing as a pelmet, but of loose hanging material). The brass track is usually of very light section. So light that one firm (Thomas French) sell it in hardware shops in rolls, when it is fed through a dispenser. This lightness of section has the disadvantage that it is very difficult to get it perfectly straight and, since any slight irregularities are very noticeable, it should only be used when the rail itself is out of sight. Another snag is that brass track is noisy and that the chromium-plated wheels are inclined to stick against the web of the I section. Two methods have been employed to lessen this nuisance. Chalco introduced a rib in the middle of the web which lessens the bearing of the wheel faces against the vertical surface, 1. The 505 Manufacturing Company replace the rear wheel with a ball and round off the shoulder of the rear side of the flange, 2. This means that when curtains are pulled by hand (that is, slightly from the front) the rear member will not be tugged against the web.

Aluminium: All the firms producing brass rails market a corresponding product in aluminium, usually repeating the detail. Harrison (Birmingham) Limited, the manufacturers of the '950' series of rails, have produced a new version peculiar to aluminium in which the I section is turned on its side with a shallow top flange and a very deep bottom flange, 3. The runners (which are of nylon) are of an entirely different type being in the form of a loose grip with hooks on the outside for attaching the curtains. As can be seen from the drawing, the curtains are suspended on a line with the rail itself and for this reason the rail bears the trade name 'drape.' This is the first manifestation we have so far mentioned in this article of the great revolution effected in curtain track by the use of nylon gliders. These are almost always much quieter than brass and, as far as we know, they will not deteriorate with age.

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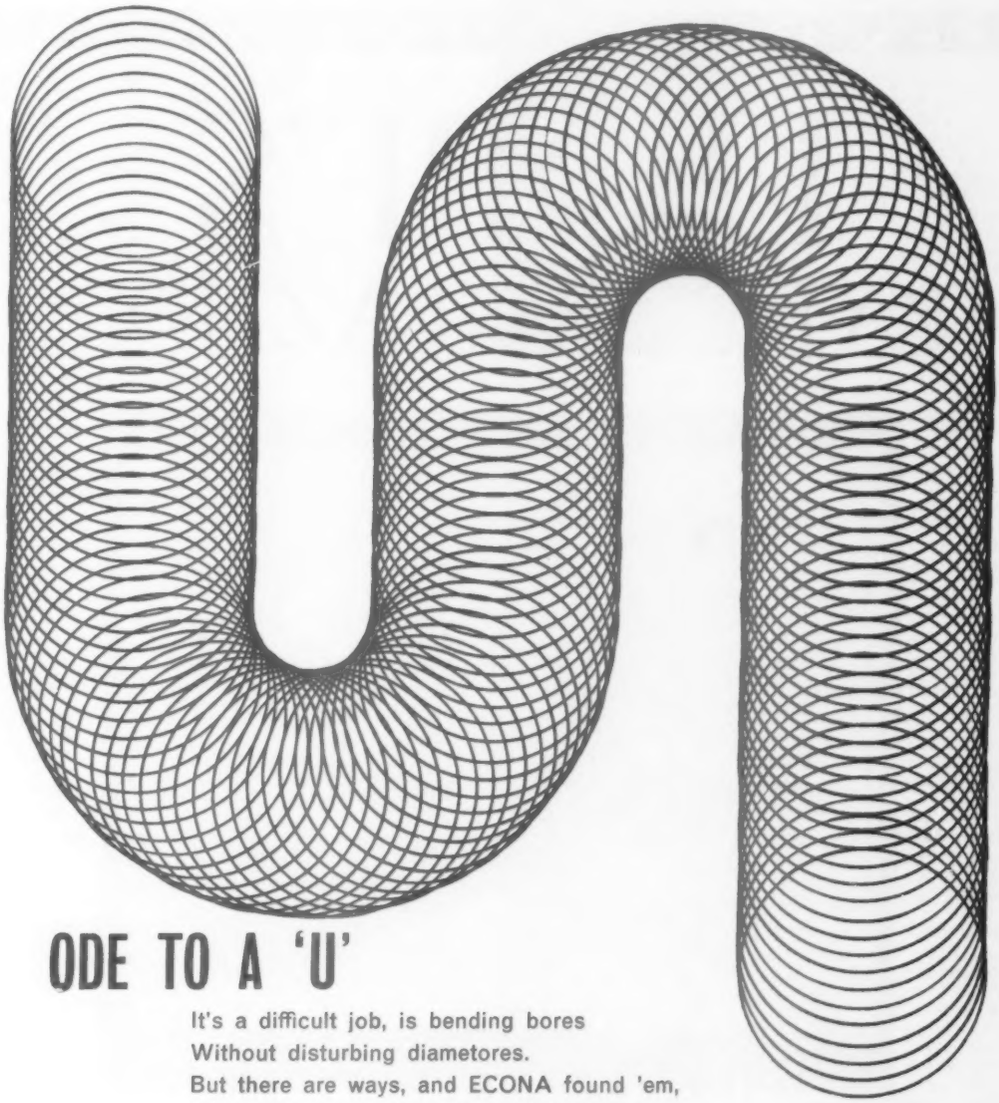

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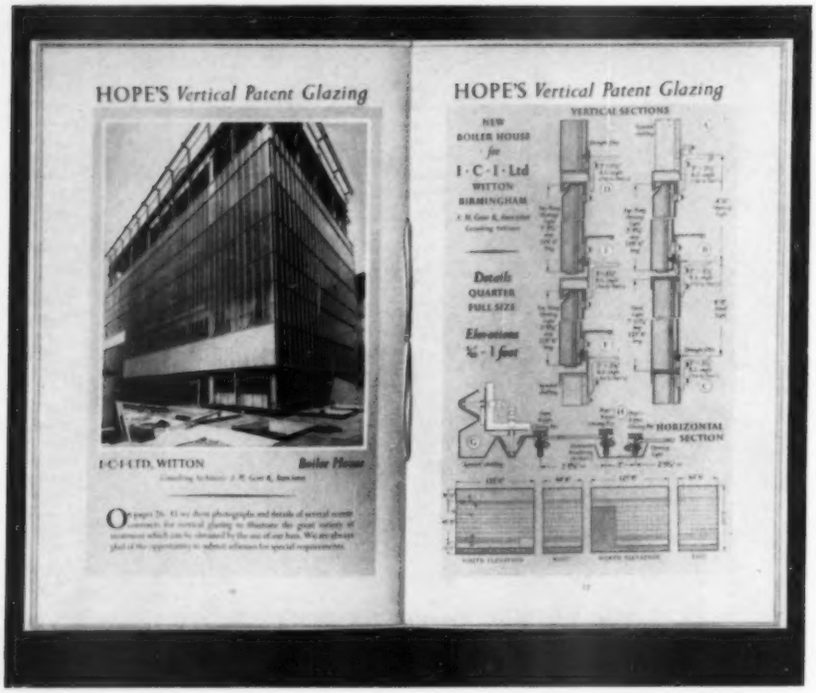

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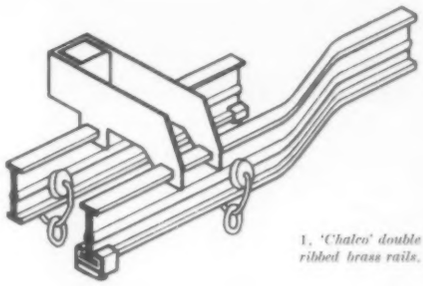
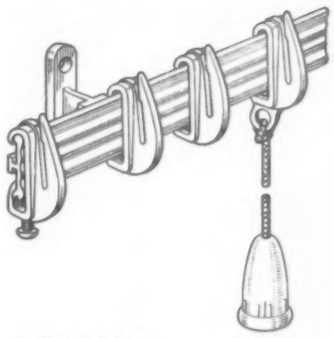
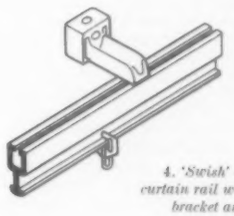


1, *'Chalco' double ribbed brass rails.*

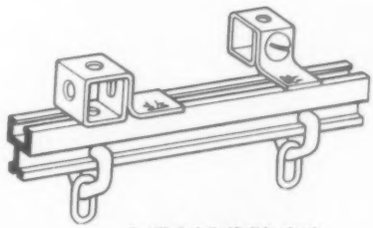
2, *variant on typical brass track and runners developed by 505 Manufacturing Co.*



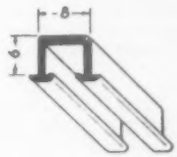
3, *Harrison's 'drape' aluminium rail.*



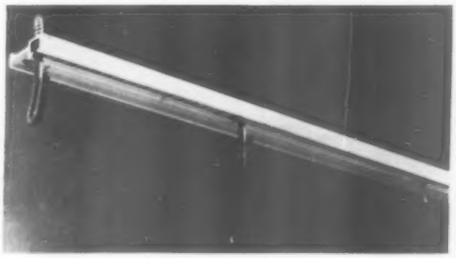
4, *'Swish' all nylon curtain rail with nylon bracket and glider.*



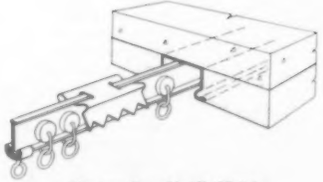
5, *'Chalco' Swiftglide plastic rail with nylon gliders.*



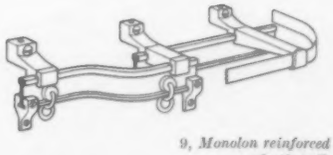
6, *Silent Gliss flush mounted single track section.*



7, *'Ghost' aluminium track with nylon runners. (Haggard Robinson & Co.).*



8, *Thomas French's 'Rufflette' recessed curtain track.*



9, *Monolon reinforced plastic rail.*

Aluminium itself has made another important contribution to the curtain rail problem, but this is dealt with in the concealed track paragraph.

Nylon: We have already mentioned nylon gliders with aluminium track. Nylon has also been used for rails. As it has less tensile strength than the metals, it needs more brackets (i.e. 1 ft. intervals instead of 3 ft. intervals), but it has the advantage that it does not get rough with age. The rail section used is quite different. Nylon track is much smaller than the usual brass I section and is commonly in the form of an inverted lipped channel above (to grip the brackets) with a squat I section below for the gliders. It can be bent sufficiently for fitting to wide angle bay windows, but not for anything approaching a right-angle bend. All versions use nylon gliders: the Chalco 'Swiftglide' uses metal brackets, 5; but the makers of 'Swish,' which is claimed to be the first all-nylon curtain rail assembly in the world, use nylon brackets also, 4. This version is easy to put up, looks very neat and has received an anti-static treatment against dust. As far as we are aware, nylon track is not available either for cording or with valance rails.

Plastic-coated pressed steel. The newest material for tracks is p.v.c.-coated pressed steel. This (it is claimed) has the advantage of nylon in that the surface will not deteriorate in any way, but, as it is stronger, it needs bracketing only at about 3 ft. intervals. Two firms make rails in this material: Harrison and The Mono Curtain Rail Company. Both use sections which are substantially the same as those used for brass and both use nylon brackets. The Mono Company's brackets (the rail is called 'Monolon') are of an ingenious clip-in pattern which makes use of the stiff, resilient nature of nylon, 9.

Concealed rails

Visible casings: The next degree of complication in curtain track design is to conceal the rail. The earliest versions of this were in brass. One in this material is Harrison's tubular brass rail. This is a comparatively heavy and bulky product, being 1½ in. wide by 1 in. deep. Versions in aluminium are generally much neater. The 'Silent Gliss' single track section is only about ½ in. wide and ⅜ in. deep. This, however, is for fixing to the soffit only. A new arrival in the market for vertical and for horizontal fixing is 'Ghost,' manufactured by Haggard Robinson and Company, 7. This is an exceedingly elegant and sophisticated rail, accommodating a black nylon glider with a head only about ¼ in. in diameter. In this way the properties of both materials are used to the best advantage and the result is so satisfactory visually that any greater degree of concealment seems uncalled for.

Recessed casings: As far as the track is concerned, full recession of the casings completes the drive towards unobtrusiveness. Apparently the first to introduce a recessed track was Silent Gliss Limited. In the class of simple track which we are now considering they manufacture a single plaster section for hand drawn curtains in aluminium. The actual curtain track fits into this and is held in place by a felt or neoprene pack which forces the track section against a range of ribs in the plaster section, 6.

Another product in this class is Thomas French's 'Rufflette' recessed curtain track, 8. This employs a sherardized steel channel into which

is clipped standard brass track with chromium brass runners.

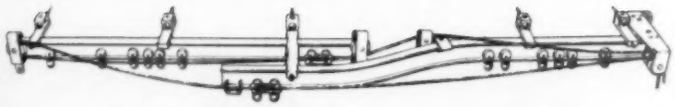
One disadvantage which is common to virtually all the concealed rails we have considered so far, whether their casings are visible or recessed, is that they can only be used in straight runs. They cannot, therefore, either be used in bays or be used with cross overs.

Corded sets

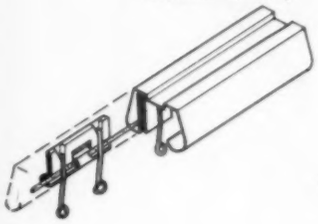
As we have already remarked, the use of cords saves wear on the curtains. Also, to pull a cord is a more elegant way of drawing a curtain. The original type of cording uses a heavy brass track similar in many ways to the track used in overhead door gear. This is called 'railway action' and rails can be obtained (to special order) to fit bays. The end pair of runners on each curtain are attached to the cord and together are called the 'master runner.' The cord doubles round a horizontal pulley at the end of the run and returns, via various guides and stops, to the side. One manufacturer of curtains of this type is Hunter and Hyland Limited.

Practically all the manufacturers of light standard brass and aluminium curtain runners provide corded sets for their curtains. They are of two main types. Those in which the cord is continuous (even though the track may be in two sections) and those in which there is a separate cord for each track, 10. With the former you have only to pull on the cord and (if you are lucky) both curtains begin to open (or to shut): with the latter each curtain must be pulled separately. The disadvantage of cording sets of these types is that the cords tend to hang down, to collect dust and to jam on the pulleys and guides. To overcome this disadvantage, there has been a move to run the cords in continuous grooves. Two firms produce tracks of this pattern. One is Thomas French who market a curtain suspension called 'Double Track,' 11. This consists of an inverted pressed steel channel (for attachment direct to ceiling or soffit) with edges curved to form the two tracks and to provide two very small ducts for the cords. Ingenious nylon gliders run on the rails and are marshalled by 'master gliders' attached to the cord. The suspension is of the continuous track type mentioned above so that one pull on the cord moves both curtains. The other firm in this particular field is Silent Gliss Limited who produce a very complete range of enclosed corded rails. For surface fixing they have a single track, double cord section (which, as it would not permit an overlap, could only be used for a single curtain), 12.; also a double track double cord section. Lastly, they produce a single track plaster section which is the same as the first of these two except that additional flanges project upwards into the plaster. All are of aluminium with nylon glides. None of these tracks with concealed cords can be used in other than straight runs, but Silent Gliss also market a 'flush-to-ceiling' curtain track with a right-angle piece at the ends which would enable returning lengths of track to be fitted to a right-angled bay. Each length, however, would have to be in a separate cording system.

To sum up: it seems that we have at last found a material—nylon—which promises to resolve the reasonable demands of architects. Curiously enough the same material has also done much to improve and to cheapen sliding doors. In an architecture which attaches so much importance to preserving the sense of the plane surface, this is a significant technical achievement. For in the long run the availability of cheap and effective hardware is of much greater influence in determining successful architectural form than we are usually prepared to admit.



10, typical continuous cord cording set (Smith & Davis Ltd. 'Beacon.')



11, Thomas French's 'double track.'

12, Silent Gliss flush mounting double cord section.

MANUFACTURERS

Chalco Ltd., 35, Summer Row, Birmingham, 3. Central 4459.
Thomas French & Sons Ltd., Chester Road, Manchester, 15. Blackfriars 1887.
Haggard Robinson & Co. Ltd., 6, Stanley Park Road, Wallington, Surrey. Wallington 1181.
Harrison (Birmingham) Ltd., P.O. Box 233, Bradford Street Works, Birmingham, 12. Victoria 3421.
Hunter & Hyland Ltd., 18a, Ingrave Street, London, S.W.11. Battersea 8585.
Mono Curtain Rail Co. Ltd., Mono Works, Hockley Hill, Birmingham, 18. Northern 2619.
Silent Gliss Ltd., 29, Windmill Street, London, W.1. Museum 9484.
Smith & Davis Ltd., Friary Park Road, Wednesbury, Staffs.
Swish Products Ltd., Blenheim Works, Dawlish Road, Birmingham, 29. Selly Oak 2827.
505 Manufacturing Co. Ltd., St. Paul's Square, Birmingham, 3. Central 7505.

THE INDUSTRY

Timber buildings off the peg

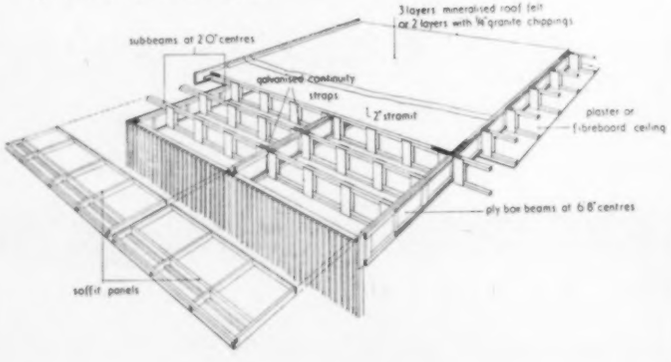
The last few years have seen the raising of the status of ready made timber buildings from the 'do-it-yourself' to the architect's class. One of the more recondite of the new arrivals in this market is the C-DA system put forward by the old-established Nottingham firm, W. J. Simms, Sons and Cooke Ltd. This is a modular system composed of storey height panels with integral framing. Posts are not required (except at angles in the wall) and the framing can be clad either with Western red cedar boarding or with external grade ply. It is essentially a 'closed system' in that the firm provide a whole building, not parts. But they are contractors as well as manufacturers; and an examination of their brochure shows that they are prepared to adapt their kit of parts to fit in with fragments of traditional building, with brick chimney stacks and the like.

The illustration of a typical roof detail shows their version of the plywood box beam—an invention which has done so much to rehabilitate timber as a structural material.
W. J. Simms, Sons and Cooke Limited, Haydon Road, Sherwood, Nottingham.

A new partition system

Messrs. Milne Gibson and Ferguson Ltd. have recently marketed a new system of lightweight partitioning known as Cunic partitioning, suitable for use in offices, showrooms and shops. Designed by Robert Nicholson and manufactured by Messrs. Holland and Hannen and Cubitts Ltd., the system is based on an extruded aluminium post, $1\frac{7}{8}$ in. square with a $\frac{5}{8}$ in. diameter hole in the centre through which electrical conduits may be run. The post is grooved on all four sides to house the partition panels which may be glass or solid, the latter supplied in a variety of materials and finishes, such as polished natural mahogany and the various melamine veneers. Ceiling battens are supplied which are slotted at 3 ft. 4 in. centres, the module on which the system is designed, and a locating pin fixed in the hole at the top of the post fits into the slot. At the base of the post an adjustable pin takes up any irregularity in floor or ceiling levels and jacks the post firmly between floor and ceiling. No fixing into the floor or ceiling is required whatsoever which means that the partitioning can be rearranged without the necessity for structural work or redecoration. The system also includes ceiling panels on a 3 ft. 4 in. module which are fixed to the battens. These panels are optional. Standard finishes, which may be solid panels

1, modular timber structural system.


3 layers mineralised roof felt
or 2 layers with ⅜" granite chippings
subbeams at 2'0" centres
galvanised continuity straps
2" screed
plaster or fibreboard ceiling
ply box beams at 6'8" centres
soffit panels

[continued on page 144

design

material

Fine design and a double-trap siphonic action are significant features of the new Kingston closet by 'Standard'. But just as important is the material from which it (like the matching lavatory basin) is made. 'Standard' vitreous china is non-porous and hygiene does not depend solely on the glaze. This, together with its great strength, makes it the most suitable material for sanitary ware. For good design in the right material, specify 'Standard' vitreous china.

vitreous china by Standard

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444

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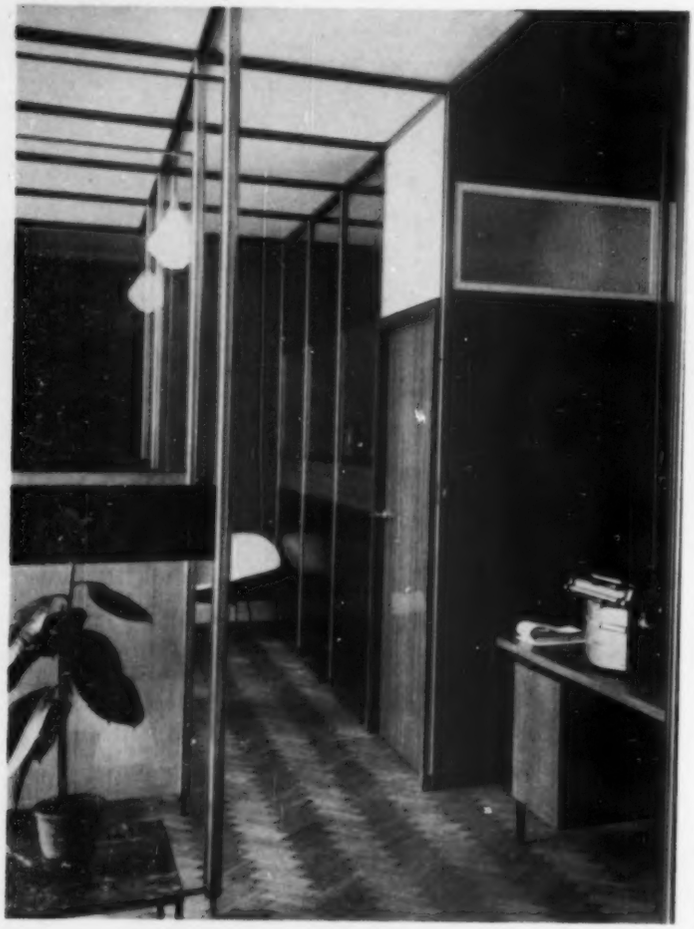
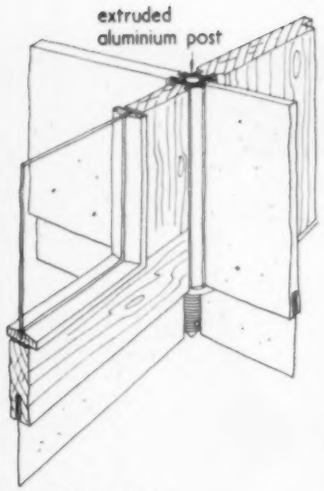




2, 3, *movable partitioning.*

for full height, or for dado or three-quarter height if half glazing is required, work out at about £5 6s. to £6 per foot run complete with posts. Skirting boards are also available together with special fittings for electric plugs and telephone cable connections.
Milne Gibson and Ferguson Ltd., 258 Grays Inn Road, London, W.C.1, and Holland and Hannen and Cubitts Ltd., 1 Queen Anne's Gate, London, S.W.1.

Copper tiles

A new development in pitched roof coverings which came on to the market just too late for inclusion in Peter Whiteley's magistral treatment of this subject* is a Finnish copper tile supplied by Marsland and Co. Ltd. 37 s.w.g. pure sheet copper is poured over waterproofed plywood sheets which are each 12½ in. square and 5 mm. thick. The tiles cost 5s. each and the average cost laid per square is round about £25. As the tiles are very light (1.3 lb./sq. ft.), they do not require a heavy supporting structure. The tiles are easy to lay (much easier than copper sheeting which is, of course, quite a tricky job) and give a roof with a copper appearance at much less cost than

4, *Finnish copper tiles.*

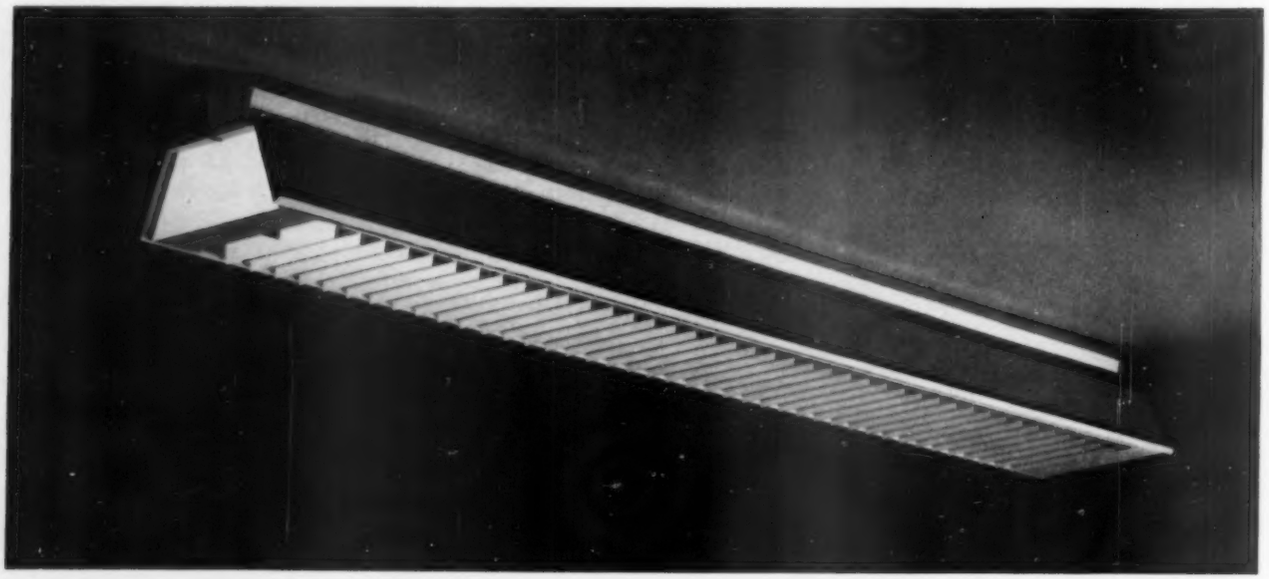
that of fully supported copper sheeting. The technique of laying is fully described in A.J Information Sheet 17.H2.
Marsland and Company Limited, Conington Road, London, S.E.13.

UAM catalogue

Those Universal Asbestos products which have undergone the catalogue rehabilitation planned for them by Edward Mills and Dargan Bullivant must surely be the most fully documented of all products used by the building industry. These cata-

* Now available in pamphlet form, price 1s. 6d.

[continued on page 146



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COLOUR SERVICE COLOUR SERVICE

technical service in action No. 1

introduction

Whilst rules can be laid down concerning the general use of paint, there are many instances where, due to a combination of circumstances, some sound technical advice is essential. Such specialised knowledge, built up over many years of practical experience, can be made readily available throughout the country to all users of Goodlass, Wall products, completely without obligation.

The expert staff in our Technical Advisory Department welcome all painting problems, no matter how obtuse, and feel more than confident that if paint can be applied at all, they will rapidly provide the correct specification.

Our Technical Advisory Department is now housed in our Speke factory in Liverpool in a modern, newly built block which has been specially designed to give them every facility for dealing with their fascinating and important work. Amongst their duties they include site visits for on the spot inspections, the preparation of detailed painting specifications, advice on the treatment of localised conditions such as mould growth, etc., explanations of new painting techniques or the application of new materials, submissions of demonstration panels and, when requested, the preparation of coloured prospective drawings, etc.

These cover but some of the main aspects of Technical Service and in the series of advertisements which follow we hope to show how valuable this Service can be to all those concerned with the correct use of paint for decoration and protection.

Goodlass, Wall & Co. Ltd., Corn Exchange, Liverpool 2, or 179/185 Gt. Portland Street, London, W.1.

SERVICE

continued from page 144]

logues are for everyone: for the architect who designs, for the builder who orders, and for the craftsman who fixes. The latest range to have this Rolls Royce treatment are Fort Sheets. Provided you have the time and the inclination, there need be no mystery about anything to do with Fort Sheets any more: it is all here, down to the last bolt and washer, which is a very useful thing. The only question which arises is what has asbestos cement done to deserve this preferential treatment? Asbestos cement sheeting and its accessories have stood the test of usefulness, but they have failed the test of visual design. The next stage is for the intelligence and sensitiveness which have been spent on these catalogues to be turned on the products themselves.
The Universal Asbestos Manufacturing Company Limited, Tolpits, Watford, Hertfordshire.

New pile

English architects welcome a new type of pile which has recently come over from Switzerland. Developed originally by Dicht AG and now handled under licence by the Holloway Group, the 'Delta' pile is not normally reinforced. It is a driven pile (which, as it compresses the surrounding earth, is usually better than a bored one) and the driving is done by means of a withdrawable metal tube with a mandril at the foot. When the tube is sunk, concrete is poured down it and, as the tube is withdrawn, this concrete is rammed and thus forced outwards to form a bulb at the foot. Further bulbs higher up the stem can be made at will by ramming during the withdrawal process.
Holloway Group of Companies, 157 Millbank, London, S.W.1.

5, glazed walling blocks.

Glazed blocks

Everyone is agreed that the finishing trades add a disproportionate amount to the cost of building. Unfortunately, few attempts to produce an equal finish by other means have proved successful. One possible exception is that of Spectra-Glaze, an application of a coloured glazed surface to concrete blocks. The coloured surface is cast, not sprayed, on to each block and a raised lip round the four visible edges enables a ½ in. mortar joint to be narrowed to ¼ in. on the surface.
The Atlas Stone Company Limited, Artillery House, Artillery Row, London, S.W.1.

Advice on colour

It is a fairly common practice for manufacturers to put out literature on the use of colour directed at the housewife, but it is much less common for them to direct it to the architect. 'Colour in Building,' a new booklet put out by the Walpamur Company, does not mention the architect by name, but the treatment of the subject suggests that he is, in fact, intended as the principal reader. The author of this booklet, Mr. A. E. Hurst, of the firm's design department, wisely takes MOE's Bulletin 9 as his point of departure and, throughout, he takes as the basis of this exposition the functional principles put forward in that Bulletin.

A point which he develops well is the fact that the incidence of light

[continued on page 148

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R.I.W. protective products are specified by leading architects and engineers throughout the country—a most certain indication of the high reputation which these materials enjoy. For over a hundred years R.I.W. has been a leader in building protection, for a century its products have kept Britain's buildings out of the weather.

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continued from page 146]

has a more significant effect on colour schemes than is commonly attributed to it and, to allow for this, he suggests that designers should make a greater use of folding models. This is sensible, for it is in practice difficult to tell in advance the effect of shading, or of adjacent colours, on a surface. Functional analysis in colour as in other aspects of design is no substitute for inspiration, but it is an effective shield against gross error. Walpamur and the author are to be congratulated on this booklet, for, in colour, gross error is well worth avoiding. The booklet is available free from *The Walpamur Company Limited, Darwen, Lancashire.*

CONTRACTORS etc

Offices and Showrooms at Seven Dials. *Architects:* Basil Spence and Partners. (*Architects for showroom:* John & Sylvia Reid.) *General contractors:* Bovis Limited. *Sub-contractors: Electrical Installation:* Barlow & Young Ltd. *Heating and ventilation:* Norris Warming Co. *Metal windows for tower, bronze foyer screen and Venetian blinds for tower:* The Crittall Manufacturing Co. *Lightning conductors:* W. J. Furse & Co. *Granite facing of showroom:* A. & F. Manuelle Ltd. *Stone facing of tower:* Nine Elms Stonemasonry Works. *Lifts:* Otis Elevator Co. *Piling:* John Shelbourne Co. *Joinery and partitions:* Builders' Supply Co. (Hayes). *Fire shutters:* Arthur L. Gibson & Co. *Waterproofing work:* Sika Ltd. *Mosaic of tower elevations and foyer floor:* Brockwell Mosaic Co. *Internal telephones:* Modern Telephones Ltd. *Balustrades for tower:* Culford Art Metal Co. *Metalwork:* Light Steelwork (1926) Ltd. *Portcullises:* Templewood Hawksley Ltd. *Trees:* William Wood & Sons Ltd. *Terrazzo for tower:* Malacarp Terrazzo Co. *Glass:* James Clark & Eaton Ltd. *Roof cleaning rails:* Cradle Runways Ltd. *Tiling:* Zanelli Ltd. *Paving:* William Knight & Co. *Lightweight screed:* Celcon Ltd. *Fibrous plaster:* C. E. Pinn & Co. *Suspended ceilings—lift lobbies and lavatories:* Scaffolding (Gt. Britain) Ltd. *Fireproof asbestos spray:* Turners Asbestos Cement Co. *Flooring—lift lobbies:* Granwood Flooring Co. *Linoleum:* Semtex Ltd. *Showroom- Mosaic wall finishes, terrazzo and mosaic flooring, stairtreads:* Art Pavements & Decorations Ltd. *Lighting fittings:* Atlas Lighting Limited. *Timber wall panelling and flooring in auditorium and all joinery:* Bath Cabinet Makers Limited. *Carpeting (Carpet suppliers):* Catesby's Contracts Ltd.; (Stockwell) S. J. & Co. *Metal framing to rotunda:* Clark Hunt & Co. *Turntable floor for rotunda:* Grant & Kent Ltd. *Furniture:* Hille of London Ltd. *Wood block flooring:* Hollis Bros. Ltd. *Display lighting:* Johnson Smith & Co. *Staircase handrail, window frames, stainless steel skirtings and grilles:* Morris Singer *Ventilation:* Norris Warming Co. *Marble wall finish:* Anselm Odling & Co. *Solid and fibrous plasterwork and decorations:* C. E. Pinn & Co. *Japanese grass cloth:* Primavera. *Flooring:* Robertson Thain & Co. *Purpose-made and electrically controlled venetian blinds and partitions:* Venetian Blinds Ltd. *PVC wall fabric:* Bernard Wardle Ltd. *Stainless steel street lighting displays:* J. Starkie Gardner Ltd. *Other display work:* Cooke's (Finsbury) Ltd.; W. Wilson; EGC Limited. *Special lighting display ceiling: lifting motors and gear: dial operated control equipment:* Atlas Theatre Lighting Department; Siemens Edison Swan Ltd.

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House at Monks Eleigh, Suffolk. *Architect:* Philip Dowson in association with: Steane, Shipman & Cantacuzino. *Contractor:* W. B. Kingsbury & Sons. *Sub-contractors: Tiling:* W. T. Lamb & Sons. *Flooring:* Davis Flooring Company.

University Lecture Halls, Cambridge. *Architects:* Sir Hugh Casson, Neville Conder and Partners. *Contractors:* Johnson and Bailey Ltd. *Sub-contractors and suppliers: Heating and ventilation:* Richard Crittall & Co. *Electrical:* T. Clarke & Co. *Pre-cast concrete:* Kendall's Stone & Paving Co. *Slate facings:* The Kirkston Green Slate Quarries Ltd. *Aluminium roofing:* Frederick Braby & Co. *Windows, aluminium entrance doors:* Williams and Williams Ltd. *Mineralite rendering:* Kendall's Flooring Ltd. *Rubber and thermoplastic tile floors:* Semtex Ltd. *Acoustic ceilings:* Hermaseal Acoustics Ltd. *Acoustic wall treatment:* E. J. Harmer & Co. *Danish panelling:* John Dale Ltd. *Terrazzo:* The Great Metropolitan Flooring Co. *Metalwork:* Grundy Arnatt Ltd. *Blackboards:* Tabulae Chalkboards Ltd. *Fixed lecture hall seating:* George M. Hammer & Co. *W.C. partitions:* Venesta Ltd. *Ironmongery:* W. N. Froy & Sons.

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How many projects fall down or go off at 'half-cock' due to the incompatibility of these two partners? All too few industrialists know enough about design and many designers could improve their knowledge of the functions in industry.

In the design and furnishing of office buildings, the work to be carried on within their walls must of necessity make certain demands, just as it does in a factory.

The question therefore arises as to whether you as an architect can appreciate those demands and satisfy them. In other words, can you marry the aesthetics of design with functional requirements?

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We have studied this problem for years. Indeed, in our '846' functional furniture we have successfully combined the dictates of function based on Time and Motion Study with the aesthetics of pleasing and colourful design.

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Later, when you are confronted with a problem of this nature, a fully-trained Shannon consultant would be pleased to advise you more fully and without charge, should you so request.

Some of this country's finest office buildings are the result of the combined efforts of leading architects and Shannon consultants.

Firstly though, make sure you have a copy of our booklet on record. If you have not already received a copy, attach the coupon to your letterheading and one will be sent to you by return.

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Gypsum Plaster is one of the finest fire resisting materials known to the Building Industry, but when Perlite is incorporated as in "Murilite" Pre-mixed Perlite Plaster, its fire resistance is greatly increased. This outstanding quality of fire resistance is amply borne out by the high fire ratings awarded by the Fire Research Station, as a result of tests carried out on various types of structure.

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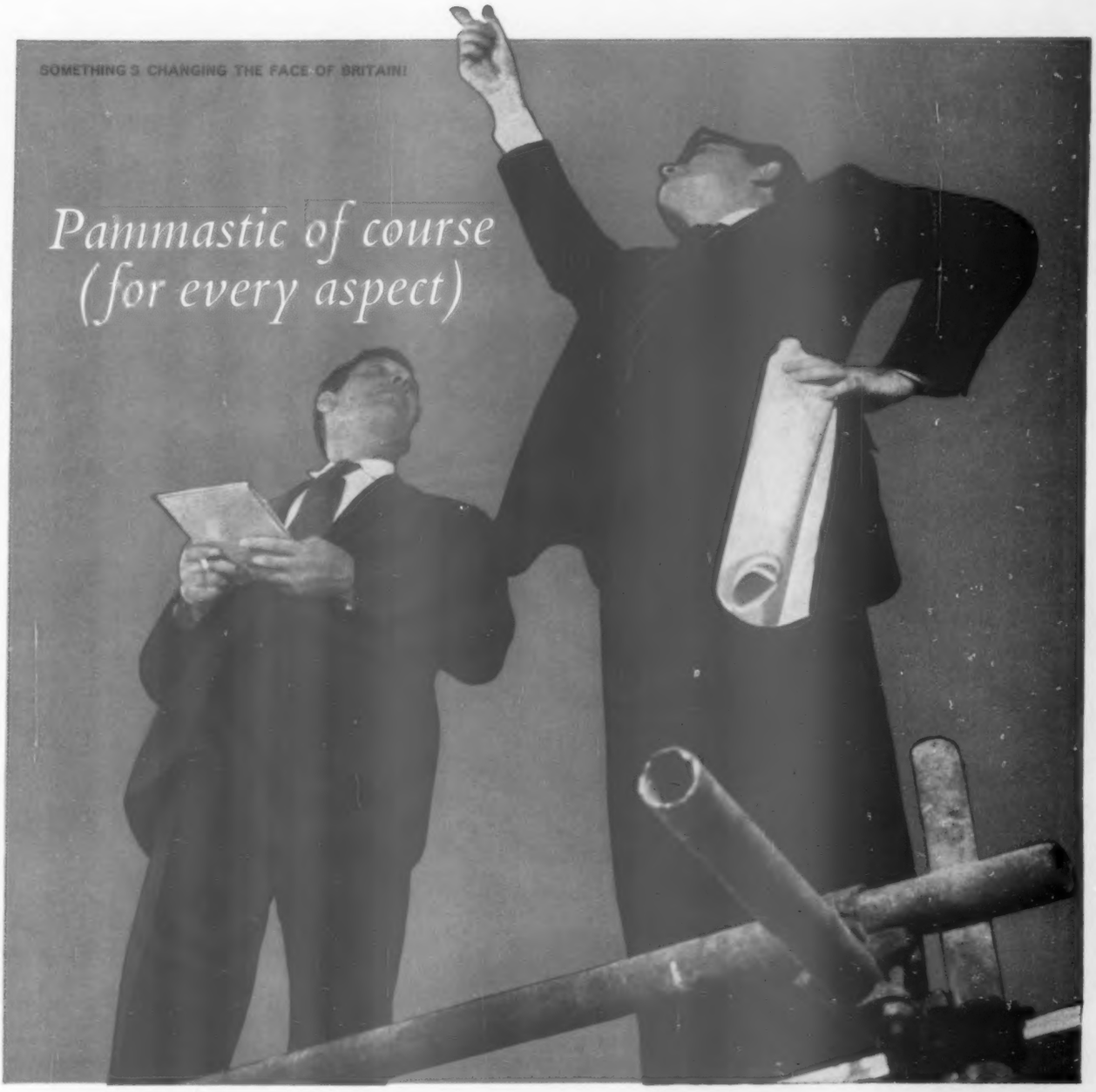

When colour masses are a vital part of design the architect can safely specify Pammastic, the first emulsion paint proved to be tough enough and durable enough for exterior use. Pammastic goes easily and quickly on to virtually any wall surface—straight from the tin, without primer or undercoat. The wide range of colours is intermixable so that exact matching can be obtained. And protection is assured . . . long lasting protection, because Pammastic stands up to even the most severe conditions longer than any conventional wall finish. Its durable yet decorative surface can be washed—even scrubbed. Further information from:

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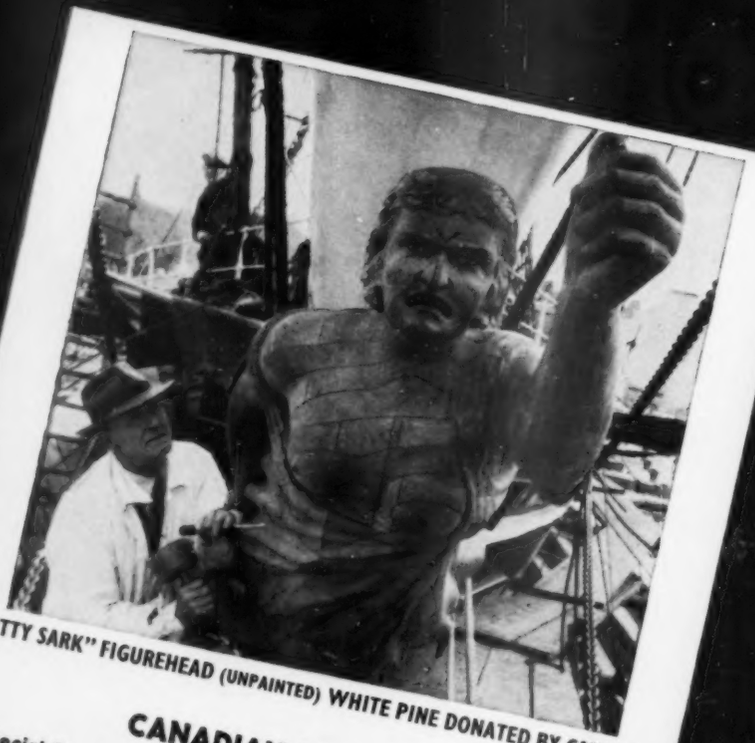

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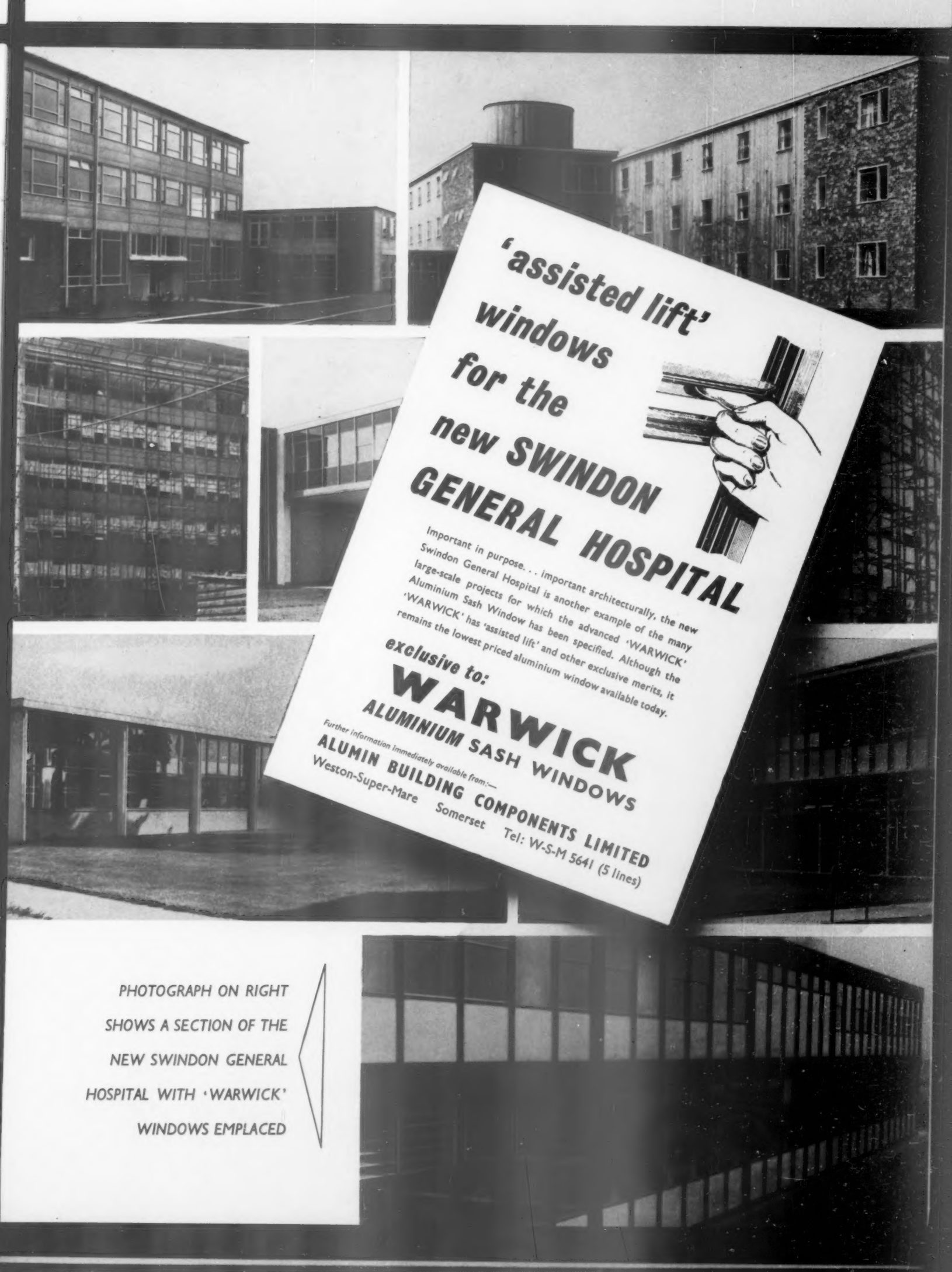

'assisted lift' windows for the new SWINDON GENERAL HOSPITAL

Important in purpose. . . important architecturally, the new Swindon General Hospital is another example of the many large-scale projects for which the advanced 'WARWICK' Aluminium Sash Window has been specified. Although the 'WARWICK' has 'assisted lift' and other exclusive merits, it remains the lowest priced aluminium window available today.

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PHOTOGRAPH ON RIGHT SHOWS A SECTION OF THE NEW SWINDON GENERAL HOSPITAL WITH 'WARWICK' WINDOWS EMPLACED

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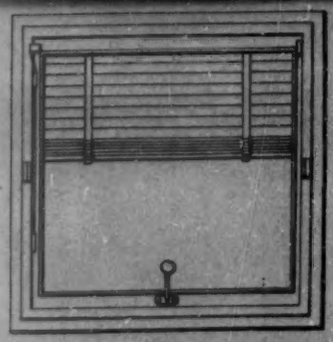

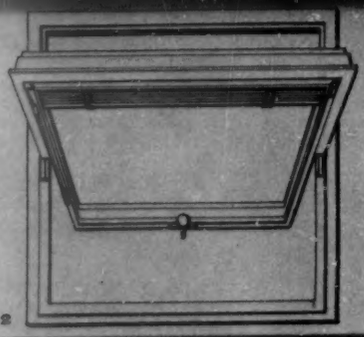

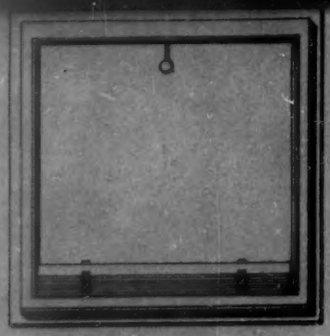

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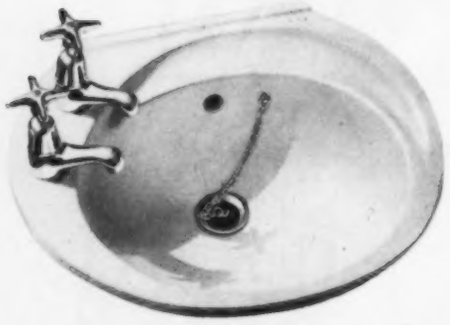

A fully illustrated booklet, published in the interest of more and better hygiene and sanitation is available on request.

Inherent in Ceramic **Glazed Fireclay** are qualities that cannot be equalled by other and seemingly cheaper substitutes. Reduced to their simplest dimensions they are its qualities of sturdiness, solidity, durability and its hygienic high-lustre glaze. Consider the average housewife and the demands she makes upon a normal kitchen sink. Watch her use it when preparing vegetables for cooking. See her wash or rinse clothes in it. She'll fill it with boiling water and the very next minute deluge it with cold. She'll empty detergents into it, and generally subject it to the most stringent endurance tests that any sanitary ware can be called upon to withstand. But one material will really stand up to such a test year in and year out, and that material is Ceramic **Glazed Fireclay.** Just one illustration that serves to emphasise some of the reasons for specifying **Fireclay,** not only for domestic use, but in industry, schools, hospitals, hotels, restaurants, public conveniences, theatres, transport terminals, in fact for any project calling for sanitary ware reflecting the highest standards.

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D1032 **Bath fitting** with ¾" taps. Inlets screwed 1" B.S. pipe, male. Bold contemporary design adds a luxury touch at reasonable cost.

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G1050 & D1032 available with the **NUASTYLE NU-FLO**, the mixer without back-flow.

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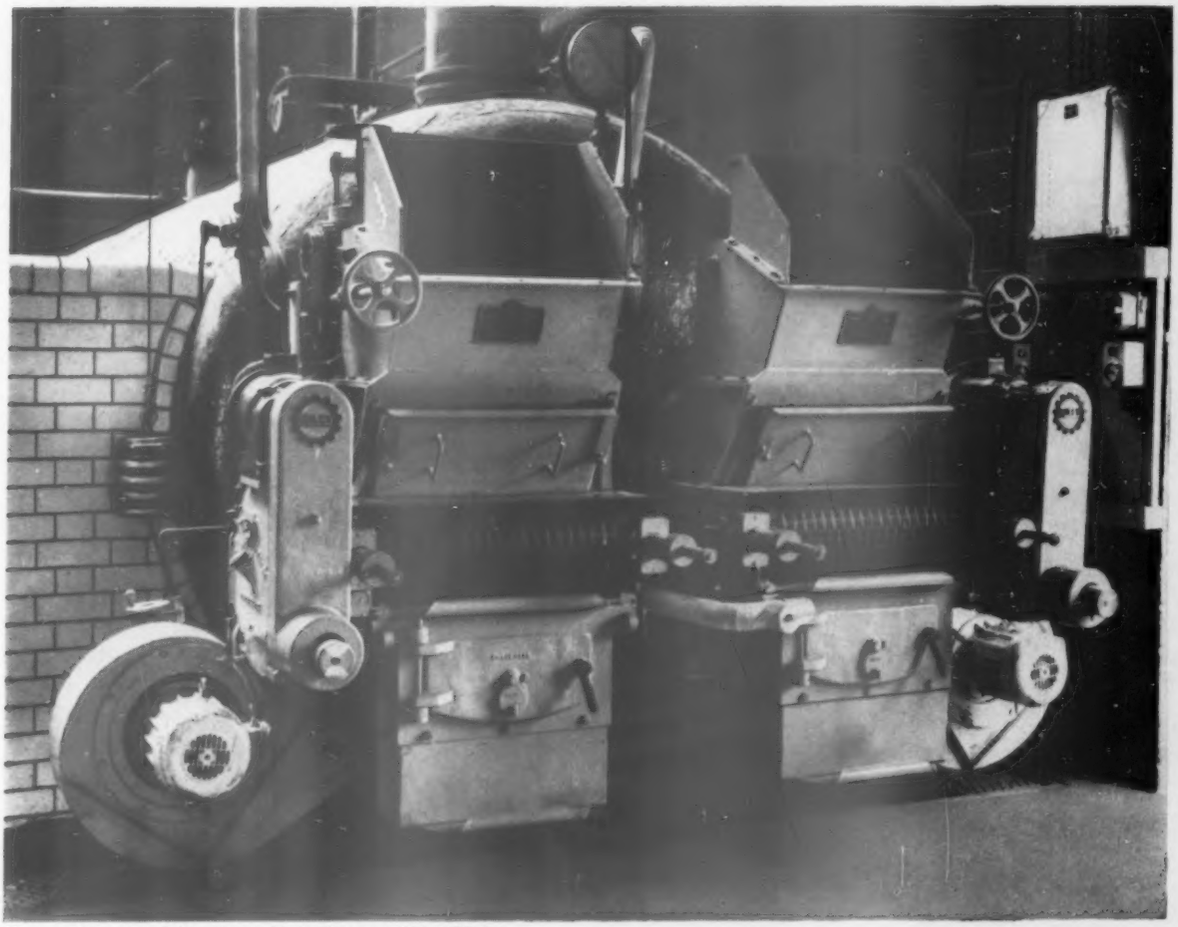
Burn low grade coals with high efficiency

on RILEY TYPE 'T' CHAIN GRATE STOKERS



Two type 'T' stokers firing a Lancashire boiler at a Midland Works

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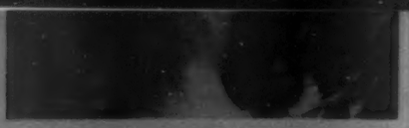

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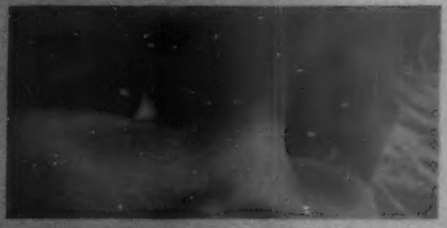

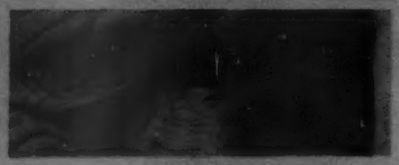

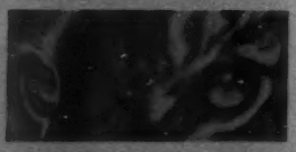

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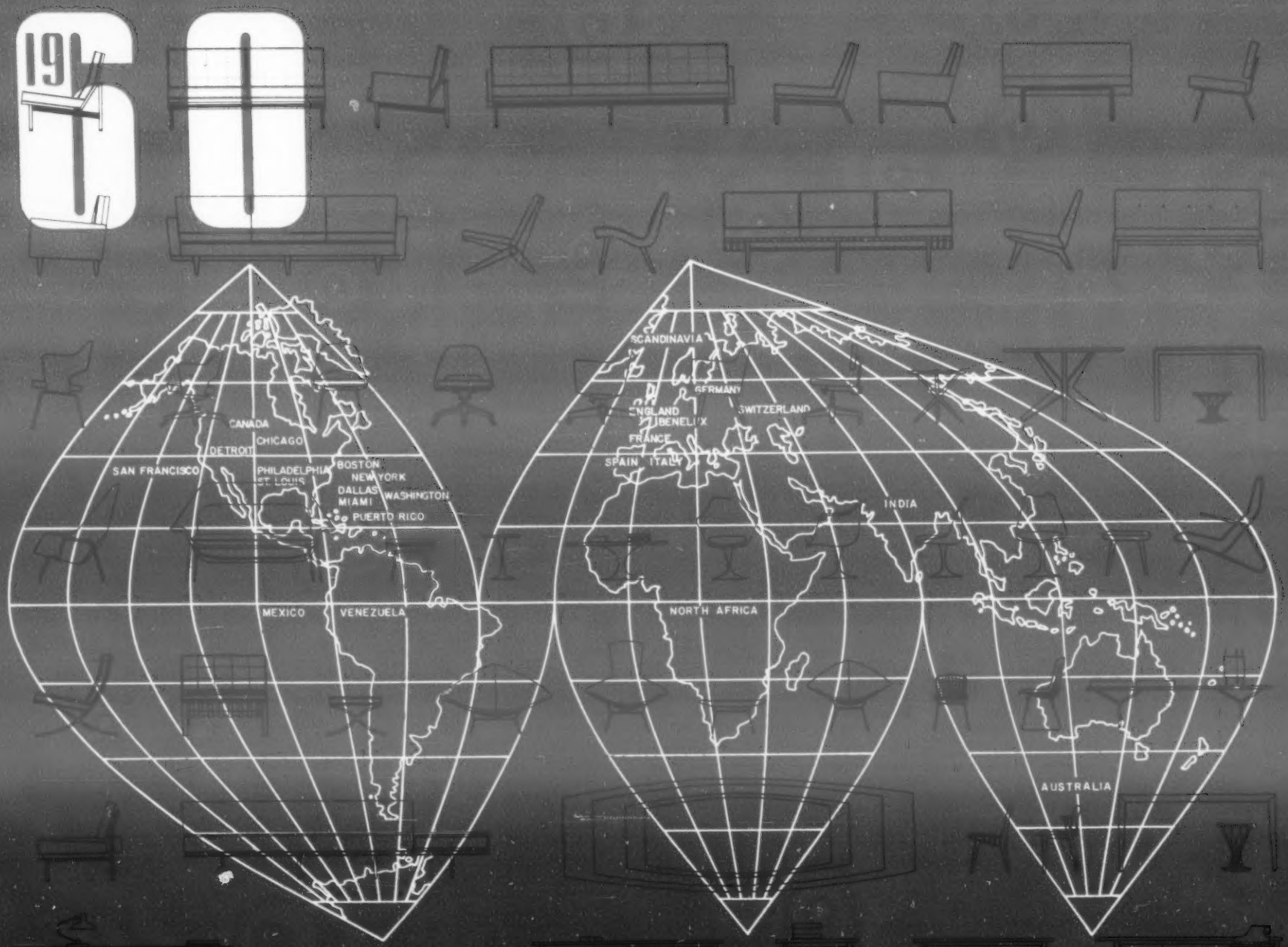

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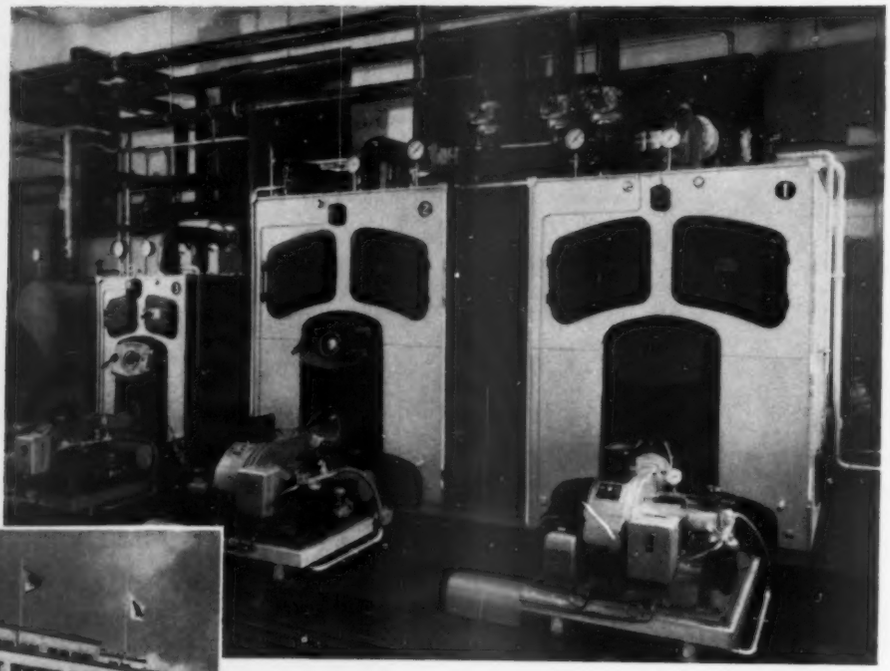
Shell-Mex & B.P. Limited chose IDEAL BRITANNIA BOILERS for their oil-fired installation in Shell-B.P. House, Bristol



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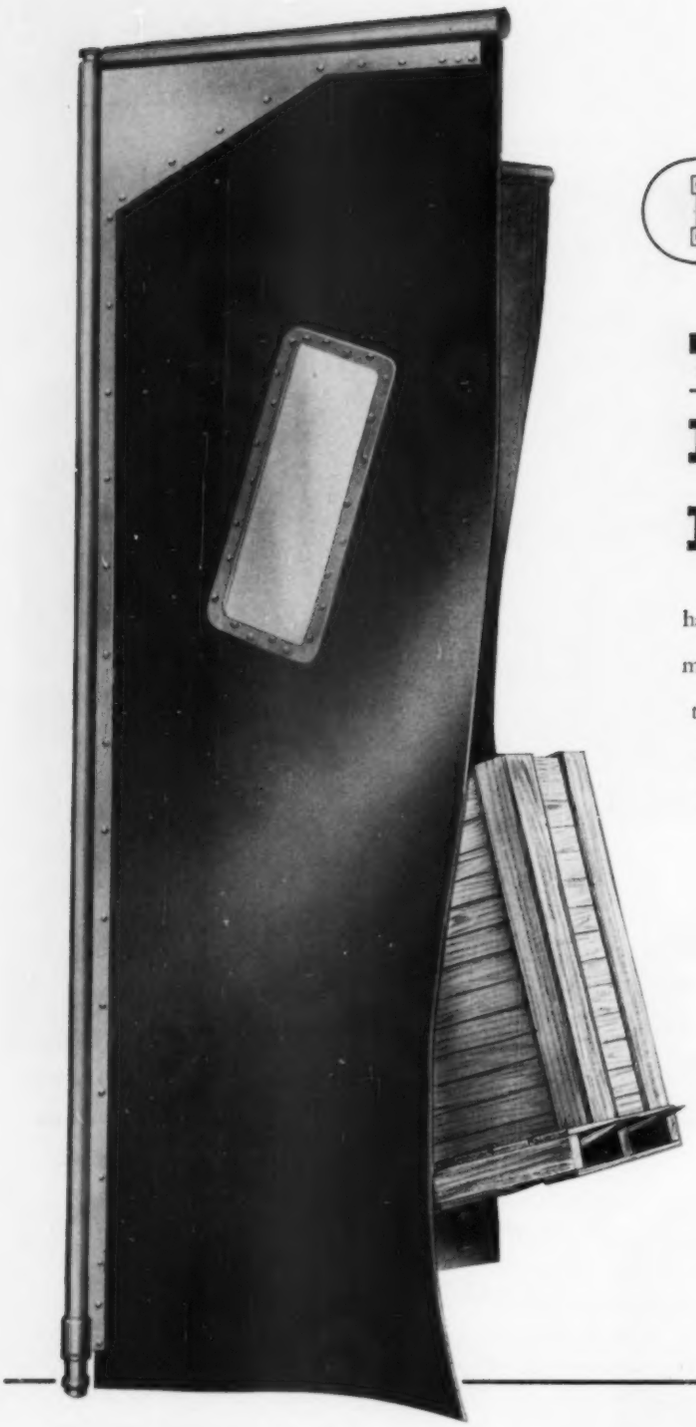

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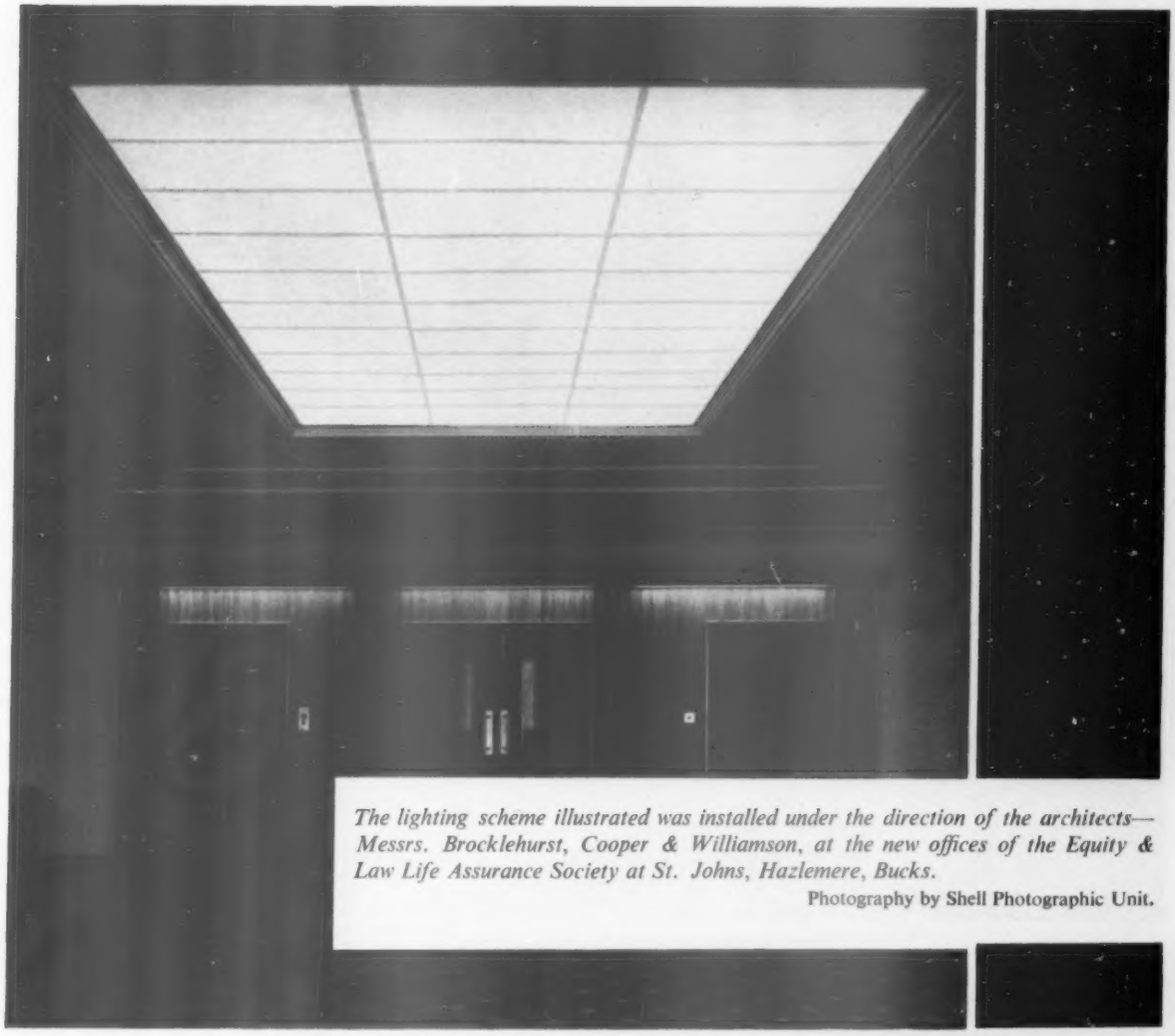

The lighting scheme illustrated was installed under the direction of the architects—Messrs. Brocklehurst, Cooper & Williamson, at the new offices of the Equity & Law Life Assurance Society at St. Johns, Hazlemere, Bucks.

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Colour: Translucent opal and clear.
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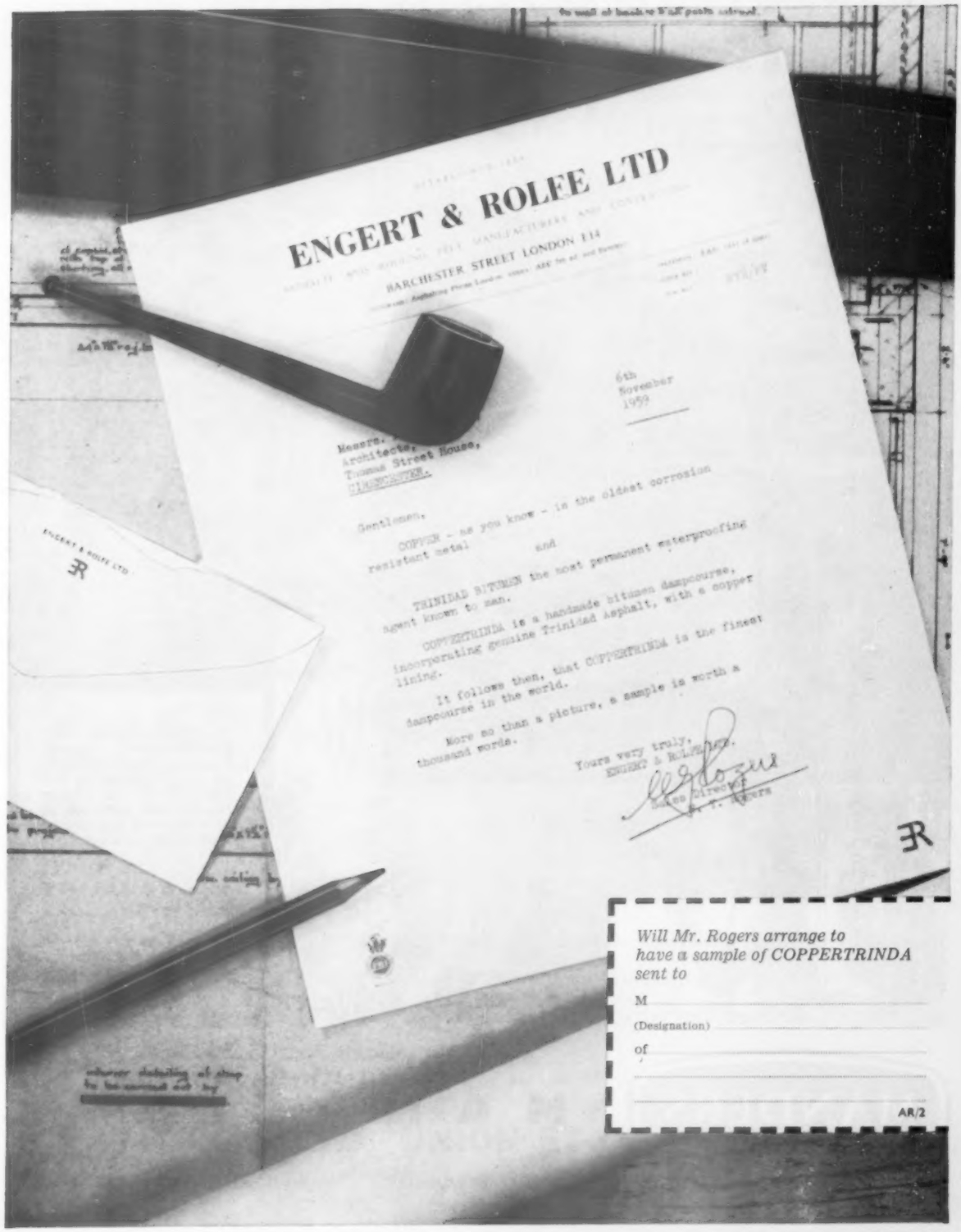
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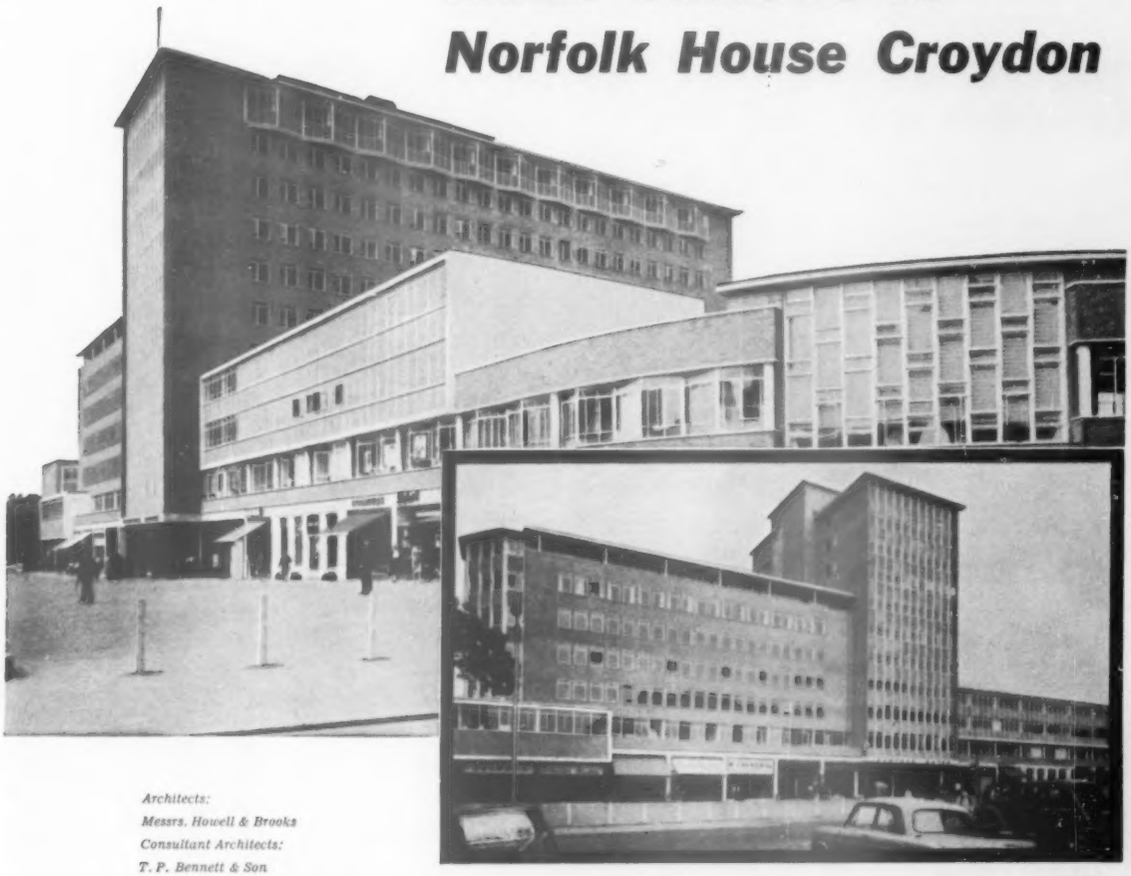
HAYWARDS

metal windows at Norfolk House Croydon



Architects:
Messrs. Howell & Brooks
Consultant Architects:
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Contractor:
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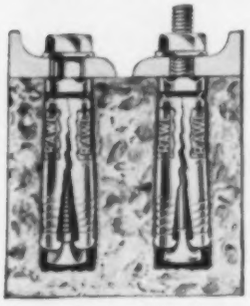

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For hand boring for Rawlbolt sizes A to G.

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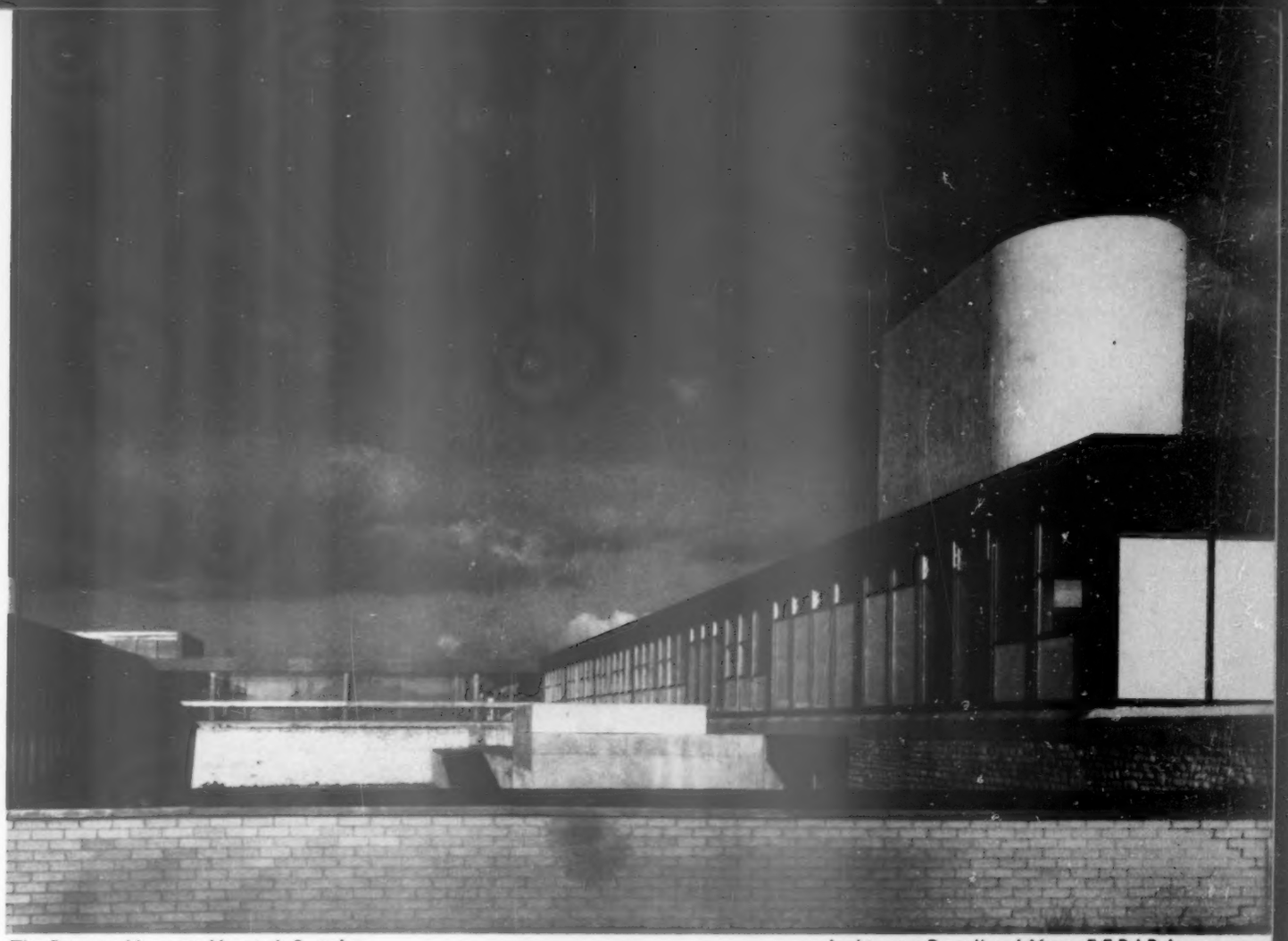

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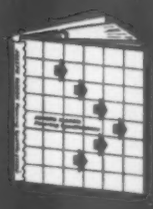

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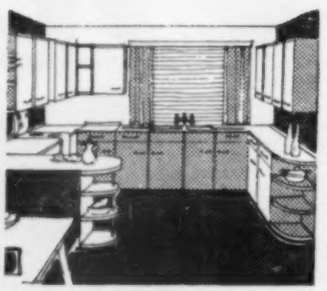

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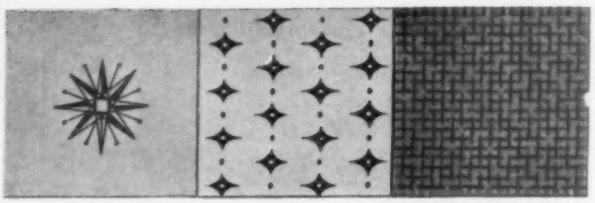

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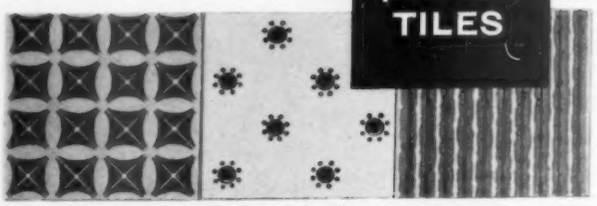

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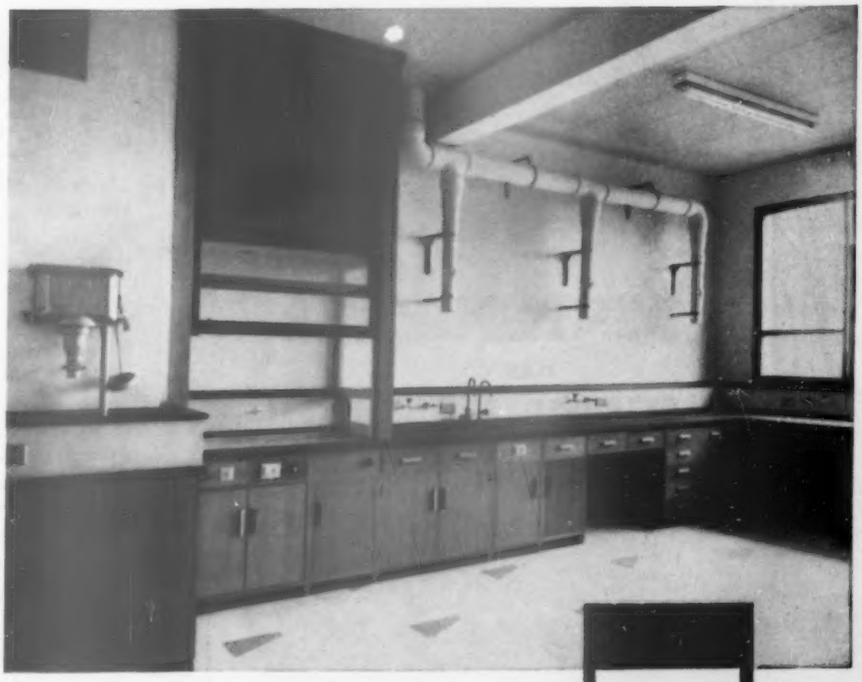

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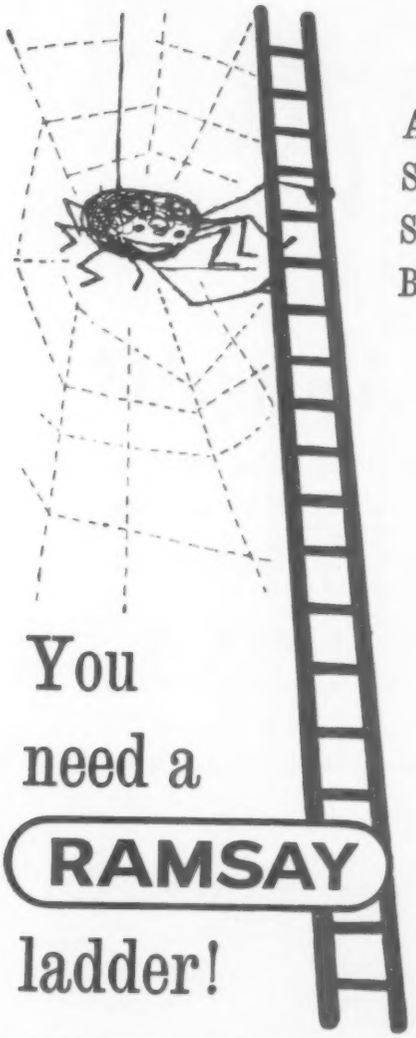

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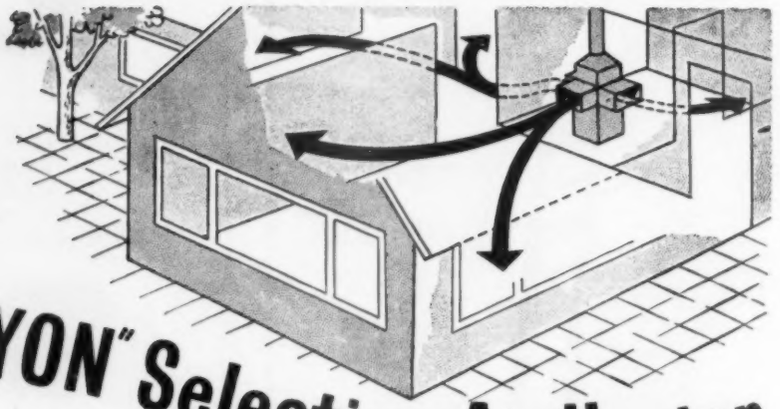

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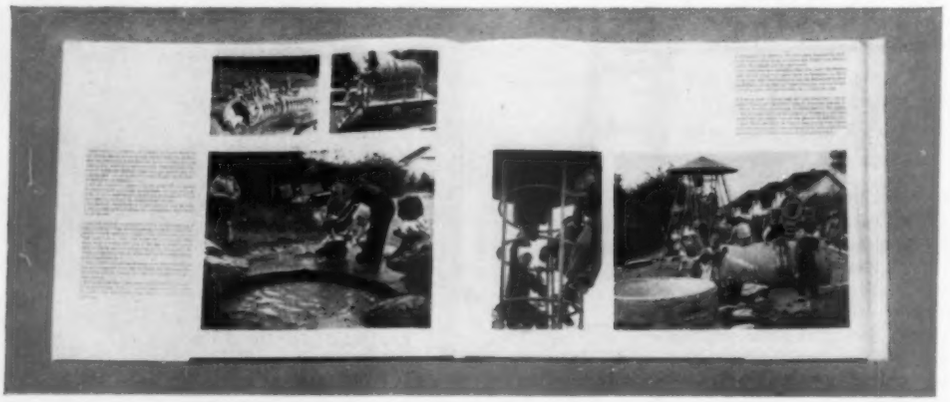

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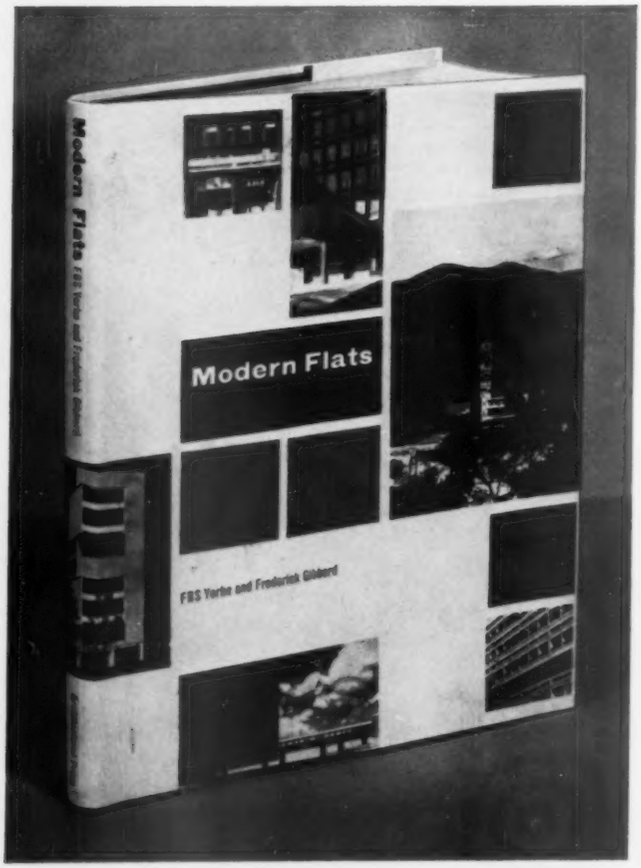

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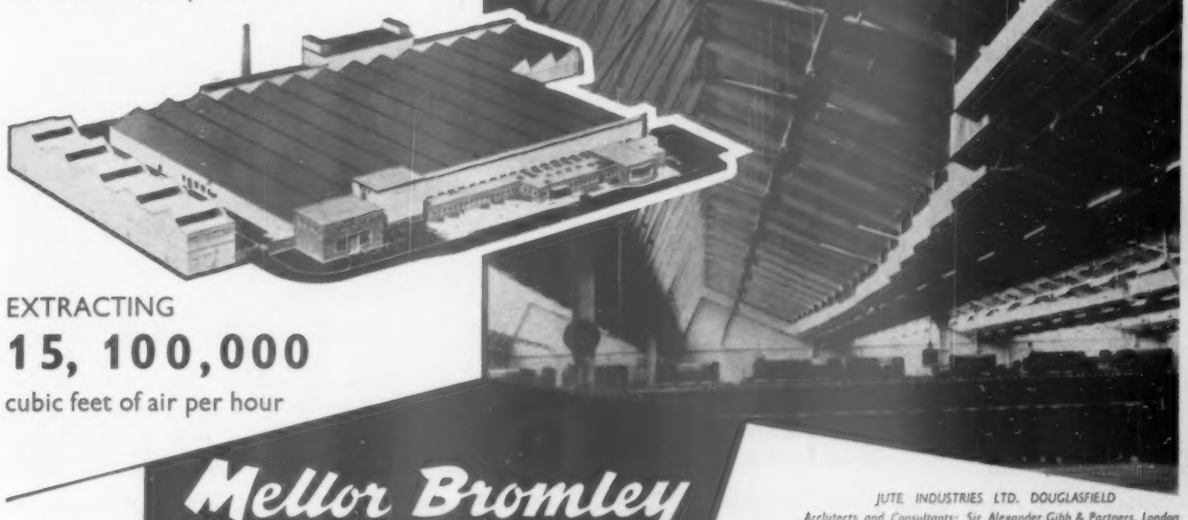

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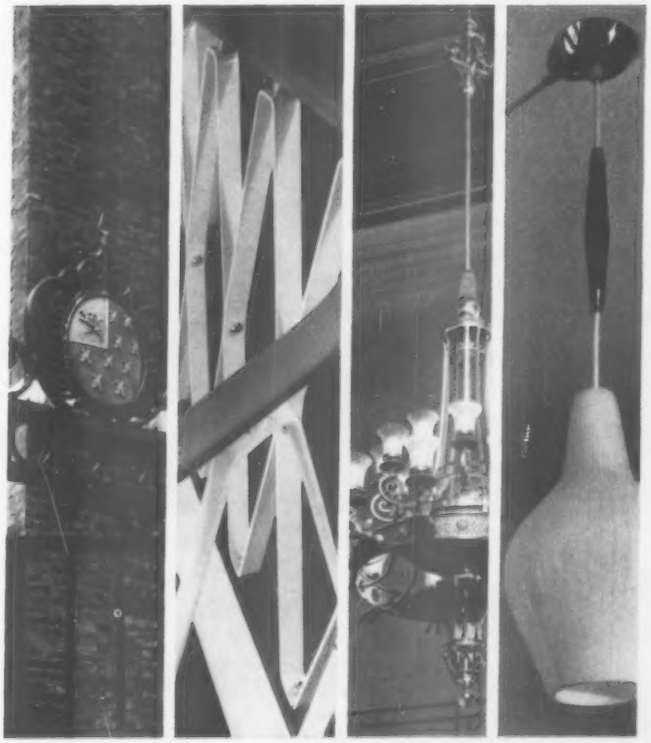

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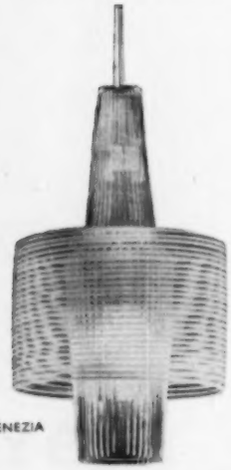
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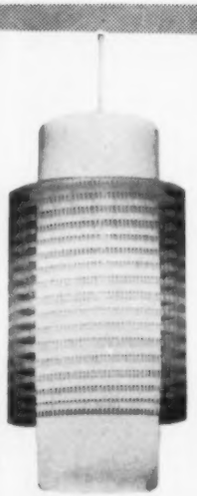
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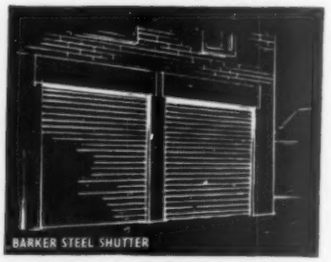

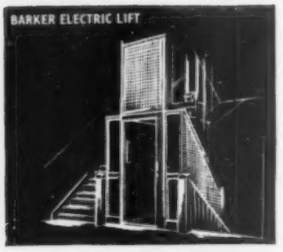

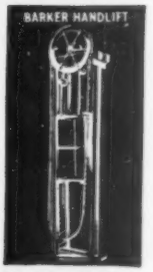

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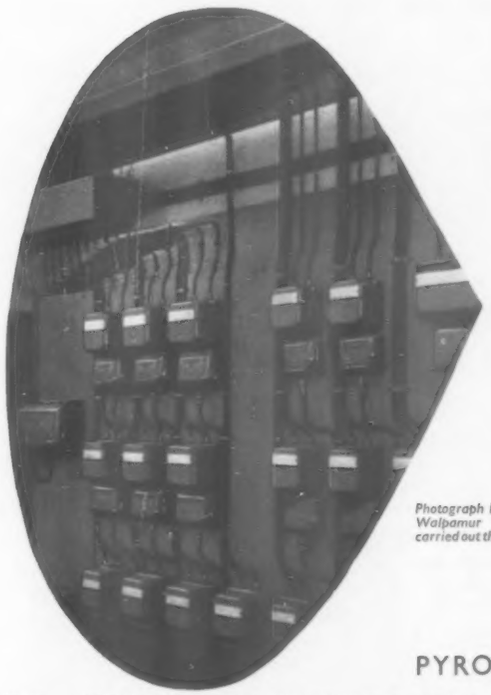

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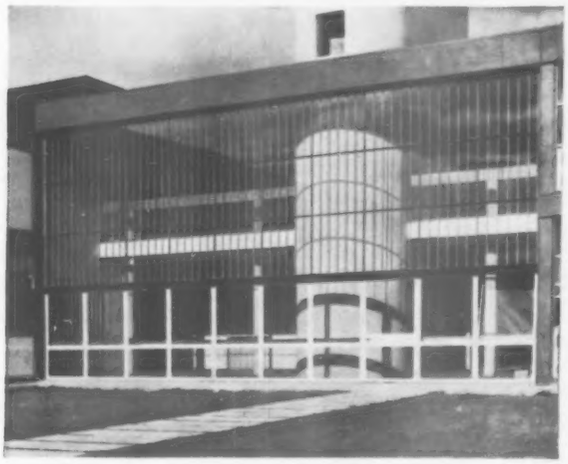

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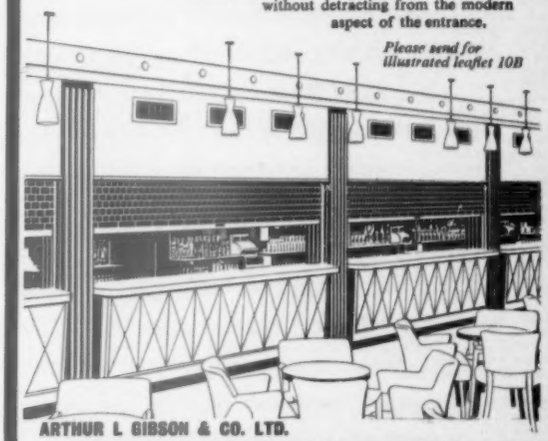

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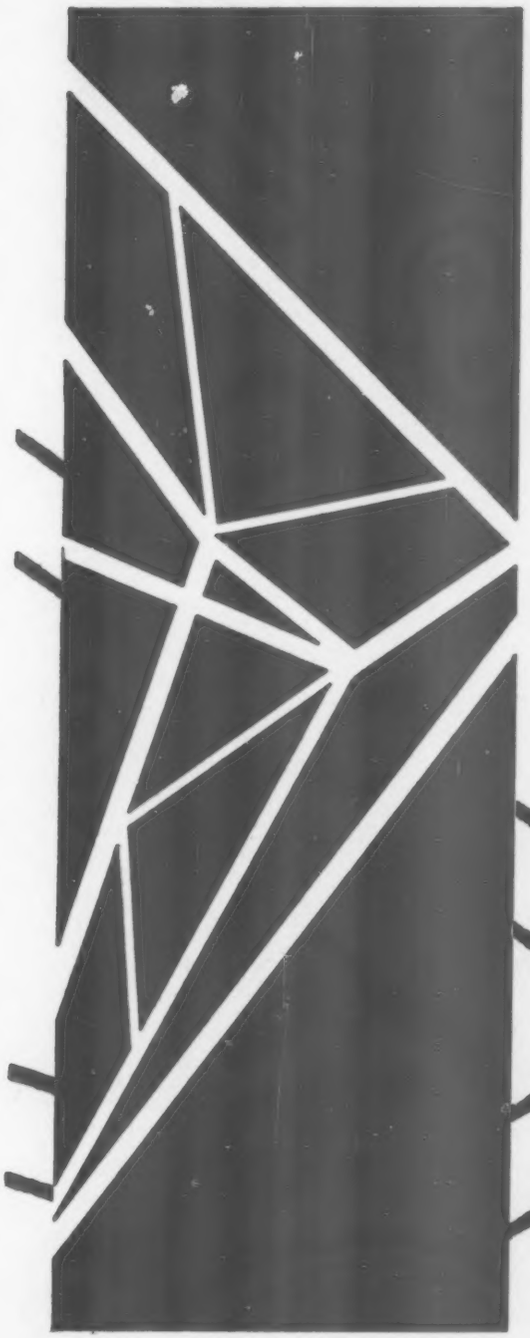

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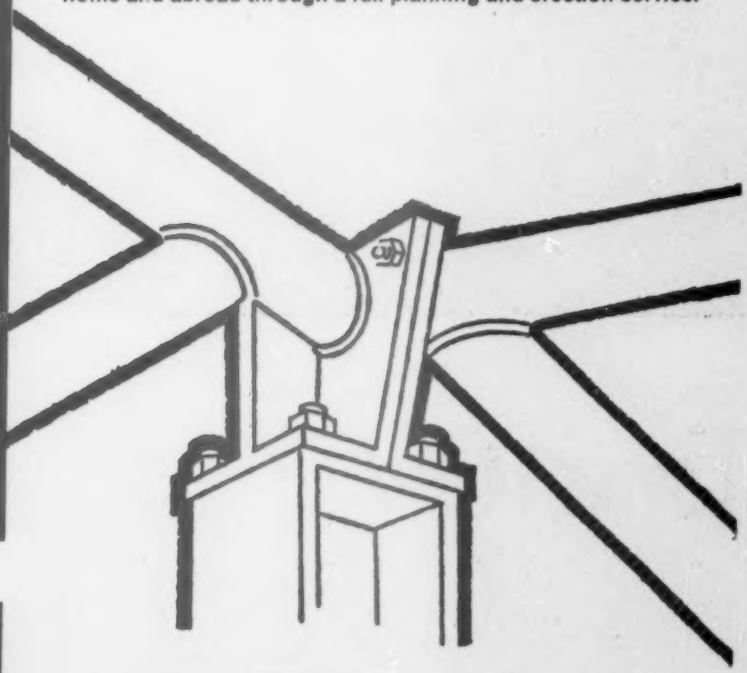

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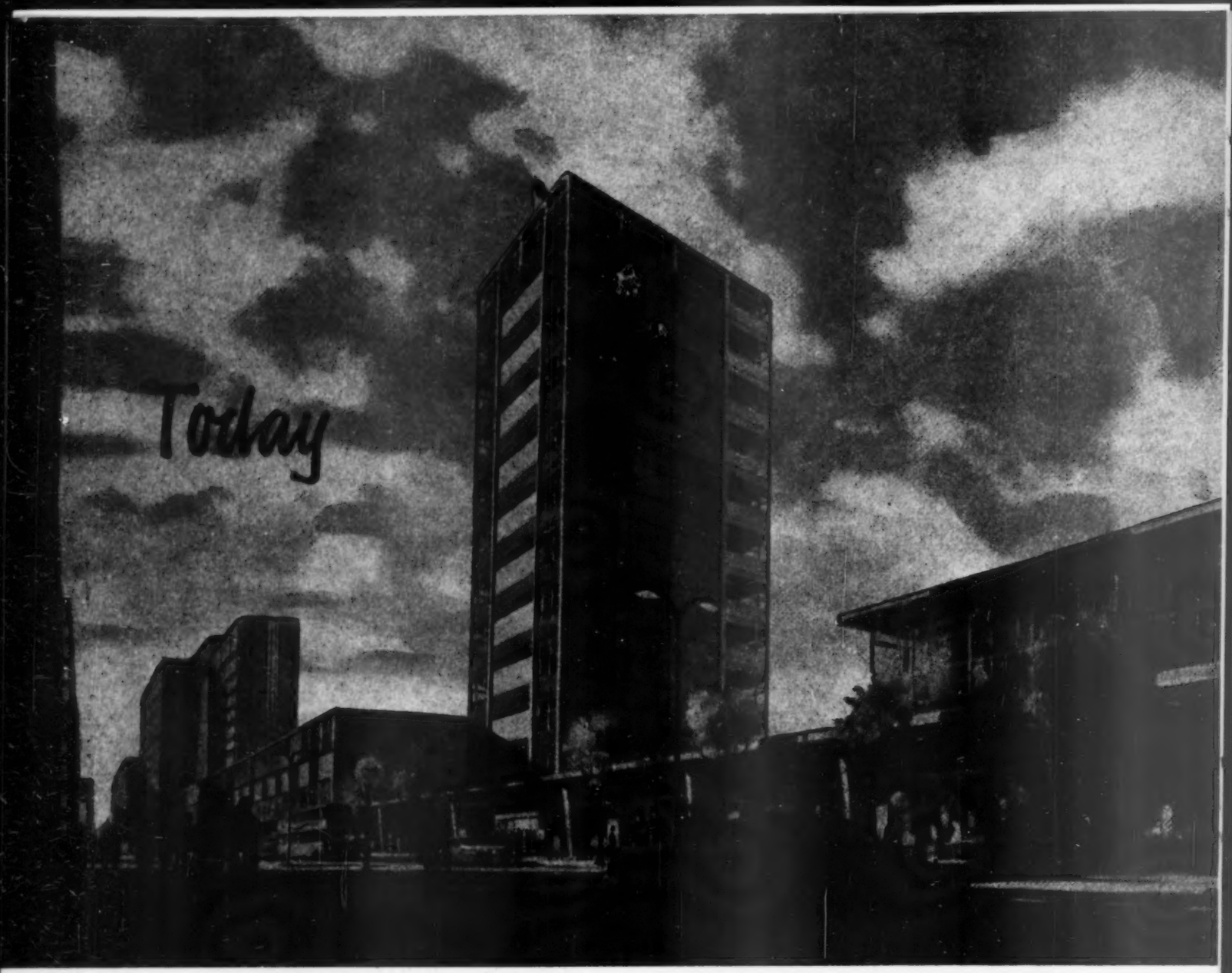

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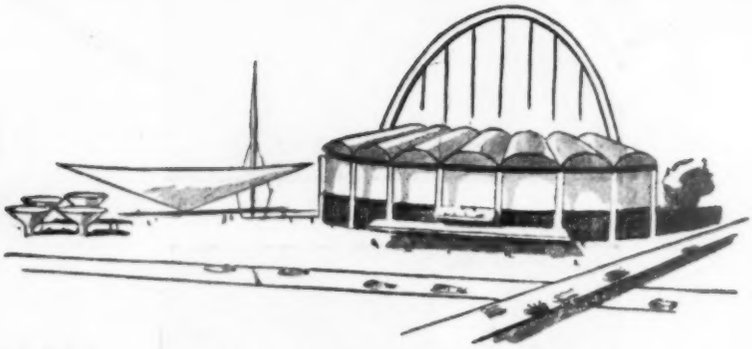

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